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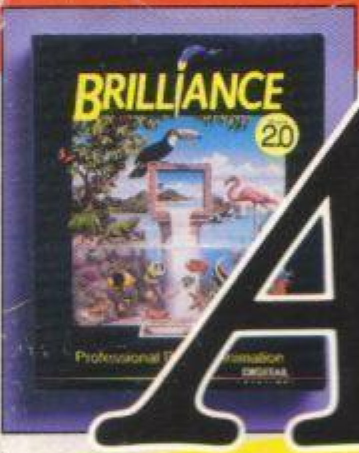
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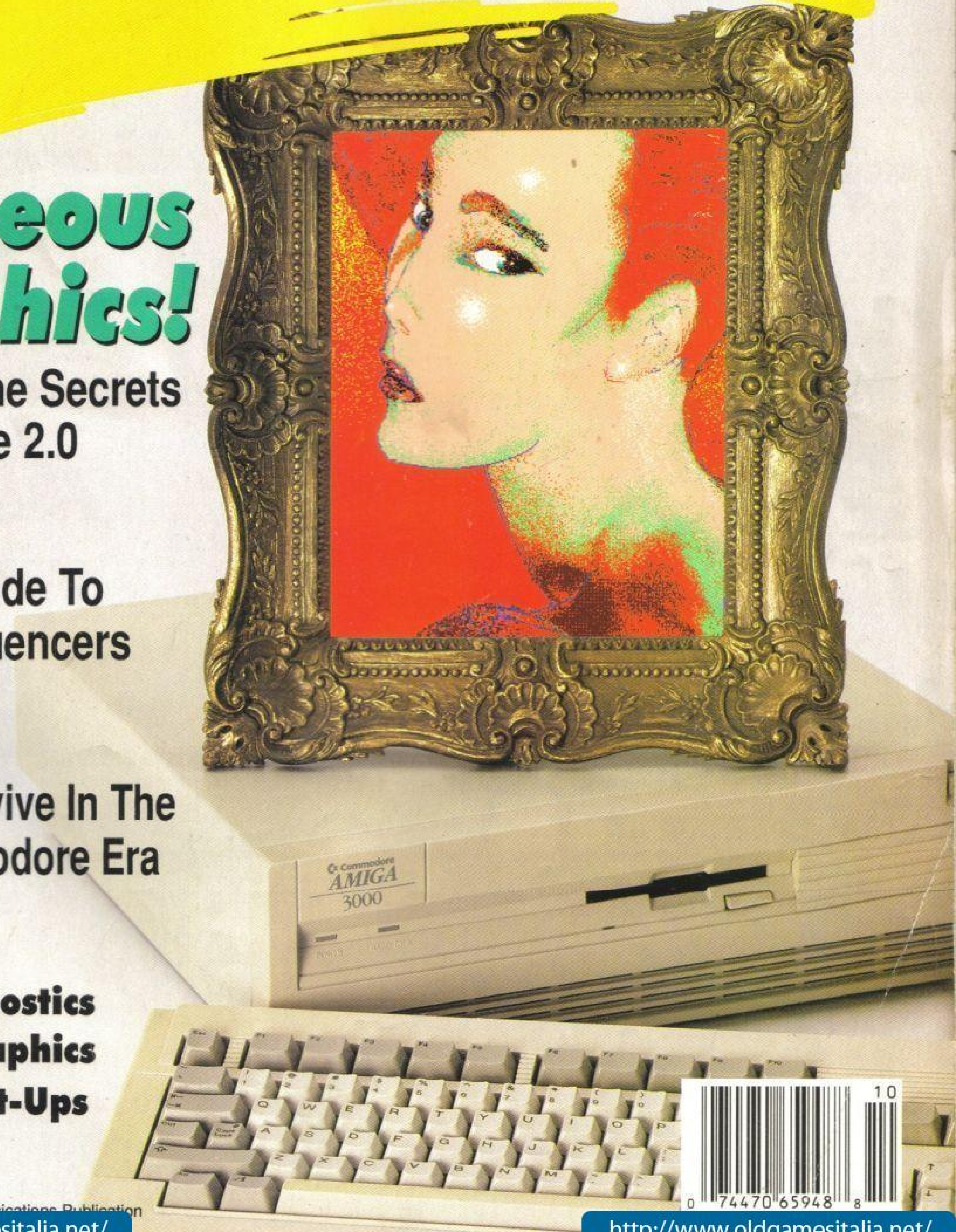
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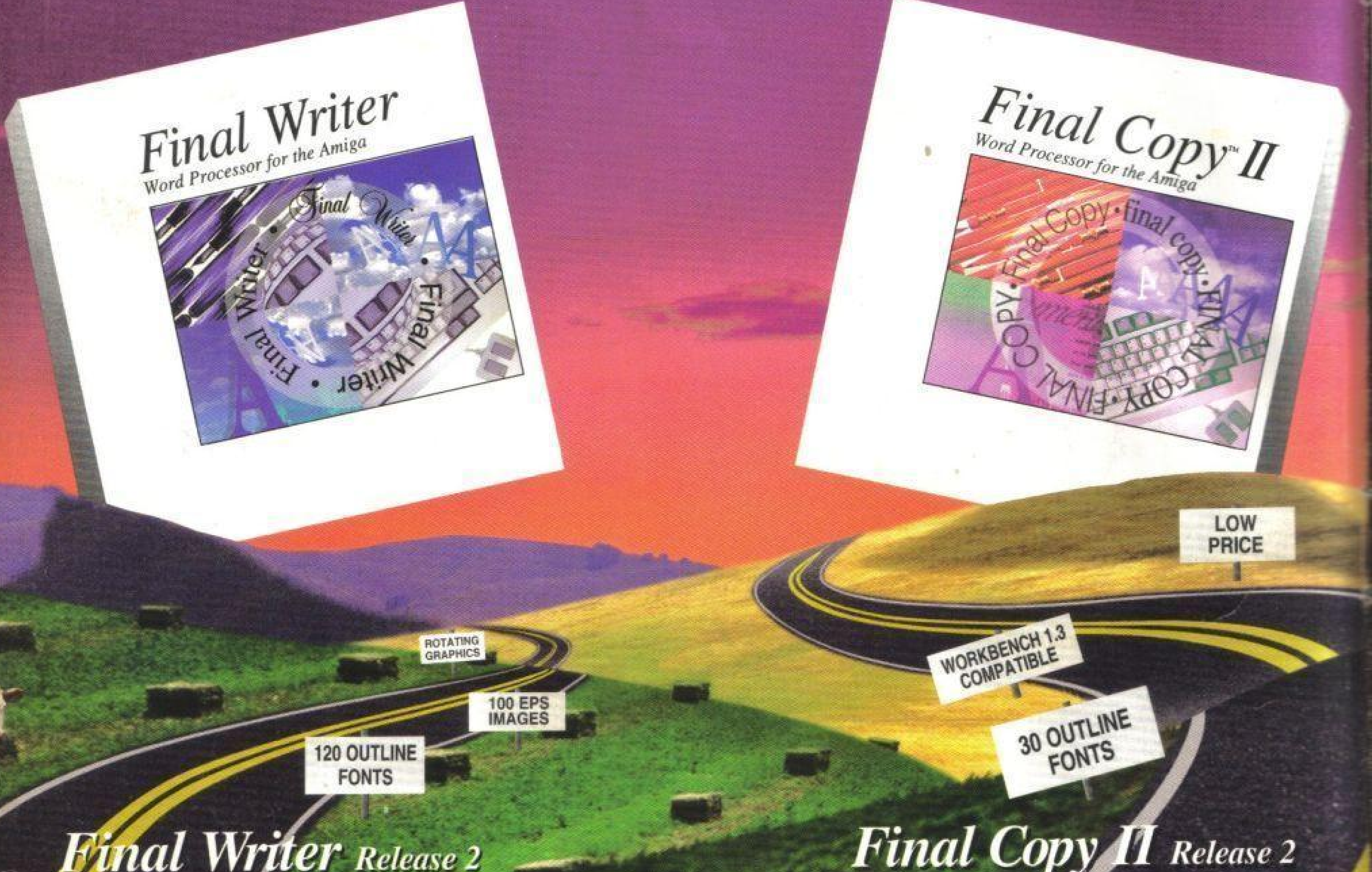

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FIRST IMPRESSIONS

The seas are choppy, but we're still afloat!

We've received a lot of phone calls, letters, e-mail, faxes and even one hand-delivered telegram, all expressing dismay over the "shrinking pages" situation at *AmigaWorld*. Why, you ask, are we cutting back our coverage? How come there is so much advertising and so little editorial?

Let me address the second point first. Dear Reader, there aren't more ad pages than before—there are *fewer*. Like you, the Amiga user, some of the people who advertise in *AW* are afraid and uncertain about what the final shakeout will be from the Commodore liquidation. So they begin to hedge a little with their advertising budgets until they can see what's going to happen. The result is that we can't afford to print as large a magazine as usual—the editorial pages drop in the same proportion as do the ad pages.

What's happening here is that we're beginning to get pulled into a vicious circle. Readers want developers and magazines to produce the same amounts of their respective products as before. Developers want as many users as before to continue reading magazine advertising and to keep buying products. Magazines want to maintain circulation, which then maintains advertising revenue, which makes money for the publishers and allows editors to include more material for the readers, who want . . . you get the picture.

Since we can't step into the Bahamian Supreme Court and demand that the Commodore liquidation mess be settled *immediately, at once, and to the satisfaction of all of us, right now, if you puhleeeze,* we thought we'd try to start by doing our part. We asked veteran Amiga aficionado Denny Atkin (a person known to many of you as a fellow user) to find out what sources of help and support are out there to keep users going during this impasse (see "We Need Somebody . . . ", p. 15).

We are also stating—both to our readers and Amiga developers—that *AmigaWorld* will be here no matter what happens. It may not be as big a book during this interim as you were used to in the past, but, unlike Commodore, we are here and will continue to provide information about *using* your Amiga and about new products developed *for* your Amiga.

With nearly five million Amigas out there around the world, there is no reason why people should stop developing new products and services for Amiga users—users, I might add, who are just a wee bit (!) more dedicated and loyal than your average "clone" consumer. So let's show those developers that even if not a single new Amiga system were ever produced, they wouldn't have to join the breadlines for a long time to come. And to the developers (a number of whom have, to their great credit, spoken out with public messages of support), don't forget the intensity of commitment out there among the Amiga user base!

Daniel Sullivan

Daniel Sullivan
Editor-in-Chief

AmigaWorld

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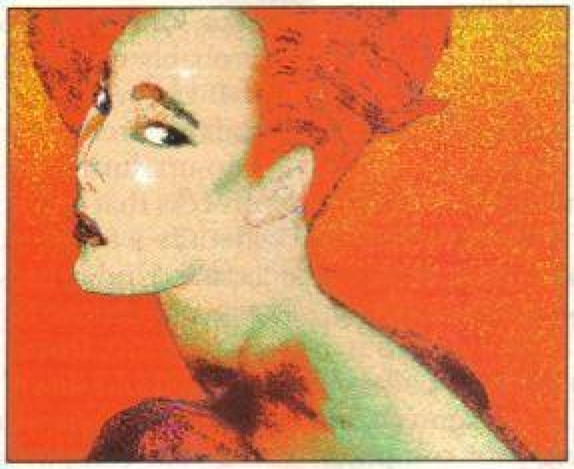

While October is a "Special Review" issue (topped by a featured look at the new Brilliance paint software used to create this month's cover image—inset above), we know our readers will also be interested in Denny Atkin's investigations into where to find support in these troubled, post-Commodore times. So, don't forget to check out "Help! We Need Somebody . . ." on p. 15.

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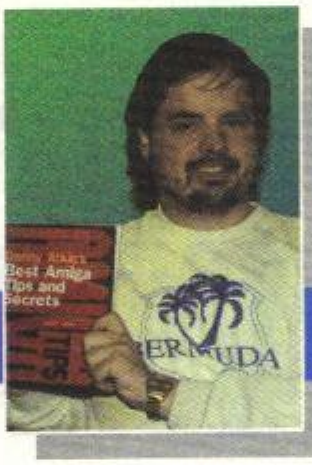
COVER PHOTO BY ED JUDICE. AMIGA SCREEN IMAGE BY PAUL NICOLAI, AURA CREATIVE LTD.



Denny on DOS

HINTS & TIPS FOR MASTERING THE OPERATING SYSTEM

#5—AmigaDOS Troubleshooting

By Denny Atkin

You turn on your Amiga and, instead of the familiar Workbench screen, up pops a screen that's blood-red. Your Amiga is sick. At this point, you're probably not feeling too well yourself. This month we'll take a look at some of the ways that the Amiga operating system can alert you when something's wrong with your system, and at some of the solutions that can help you fix minor problems without a trip to the repair shop.

POWER-UP DIAGNOSTICS

You've probably noticed that your Amiga's screen flashes for a few seconds just after you power it on. What you see is actually a sequence of colors that flash by as various portions of the power-on self-test are completed. If the computer stops on a particular color, something's wrong with your hardware. We'll go through the colors in sequence, taking a look at what they mean.

The first color is dark gray. This indicates the initial hardware and processor test. If the boot process doesn't make it past this screen, something is seriously wrong, and it's probably time to visit the repair shop. But if you're comfortable about opening up your Amiga, you might try pressing down all the chips and expansion boards to see if that helps.

The next color is light gray. This is the initial operating-system software test. Once again, it means a fairly major problem. If reseating the chips doesn't help, it's dealer time.

Next comes red, and I've hit this one a few times myself. The documented reason for a red screen popping up is that there's a problem with the Kickstart ROM, but I've also seen it occur with faulty expansion cards and loose Agnus chips. Try opening your computer and pressing down on Agnus. If that doesn't help, try removing all the expansion cards. If it boots, replace the cards one by one until you discover which is causing the problem.

AMIGA TIDBIT

When the Amiga 500 was first introduced, the delivery trucks would drive too quickly over a speedbump outside the Commodore warehouse, knocking Agnus chips loose from their sockets. Once this problem was discovered, Commodore started clipping the chips down. Dealers would often reseat the chips by dropping the Amiga about two inches onto a table—but I'd suggest the safer technique of opening the computer and pressing the chip down.

Green is next in the sequence. This color indicates a problem with chip RAM: There's a bad memory chip that needs to be replaced. Blue indicates an error in the custom chips. Once again, reseating the chips may be the solution. If that doesn't do it, one of your Amiga's custom chips probably needs replacement.

If you're running Kickstart 2, a red screen may pop up during the boot process that will actually identify a faulty expansion board. Under Kickstart 3, you can choose Expansion Diagnostics from the boot menu (hold down both mouse buttons while rebooting your computer); this screen will show you which expansion cards are working and which are faulty.

ZAPPED CLOCK

You turn on your Amiga or reboot after a nasty crash, and suddenly your Startup-Sequence reports "Battery-Backed Clock Not Found." Chances are the battery isn't dead, and, no, the cat didn't run off with it. Sometimes a particularly violent system crash can scramble the memory bits in the clock chip so much that the Amiga operating system doesn't even recognize the chip.

There's a simple solution. Just type SETCLOCK RESET. This will reset the bits in the clock. Now use the Date command to set the time and date, and type SETCLOCK SAVE to save the proper date. Under AmigaDOS 2.04 or later, Setclock Reset is quite foolproof, but sometimes it doesn't do the trick under 1.2 or 1.3. If it doesn't solve the problem, look for the public-domain utilities StartClock and ClockDoctor—they work powerful magic on even the most scrambled system clocks.

You may have heard talk of a "clock virus" that resides in the battery-backed RAM of your clock and causes disaster. Don't believe these rumors—the clock has only a few bits of storage, not enough room for even the most talented, vicious virus writer to create a program.

STARTUP ERRORS

Your Amiga is locking up during the boot sequence, and you can't figure out what command is causing the problem. This is especially frustrating under AmigaDOS 2 and later, for you usually don't even see a screen until the Workbench loads.

If this happens, boot with a floppy disk (or use the boot menu to skip the Startup-Sequence under AmigaDOS 3) and then use the ED editor to load the S/Startup-Sequence file on your boot drive. Add the command SET ECHO ON to the very top of the file. This causes the Amiga to echo each command to a shell window as it is executed, allowing you to figure out where the startup is locking up. You can then go in and remove or fix the offending command. Once everything's up and running, just remove the command from your Startup-Sequence. By the way, the Set Echo On command is also handy for debugging other scripts. ■

*Denny Atkin is author of the book **Denny Atkin's Best Amiga Tips and Secrets**. Send suggestions to him via e-mail at DennyAmiga@aol.com, or write to him c/o **AmigaWorld**.*

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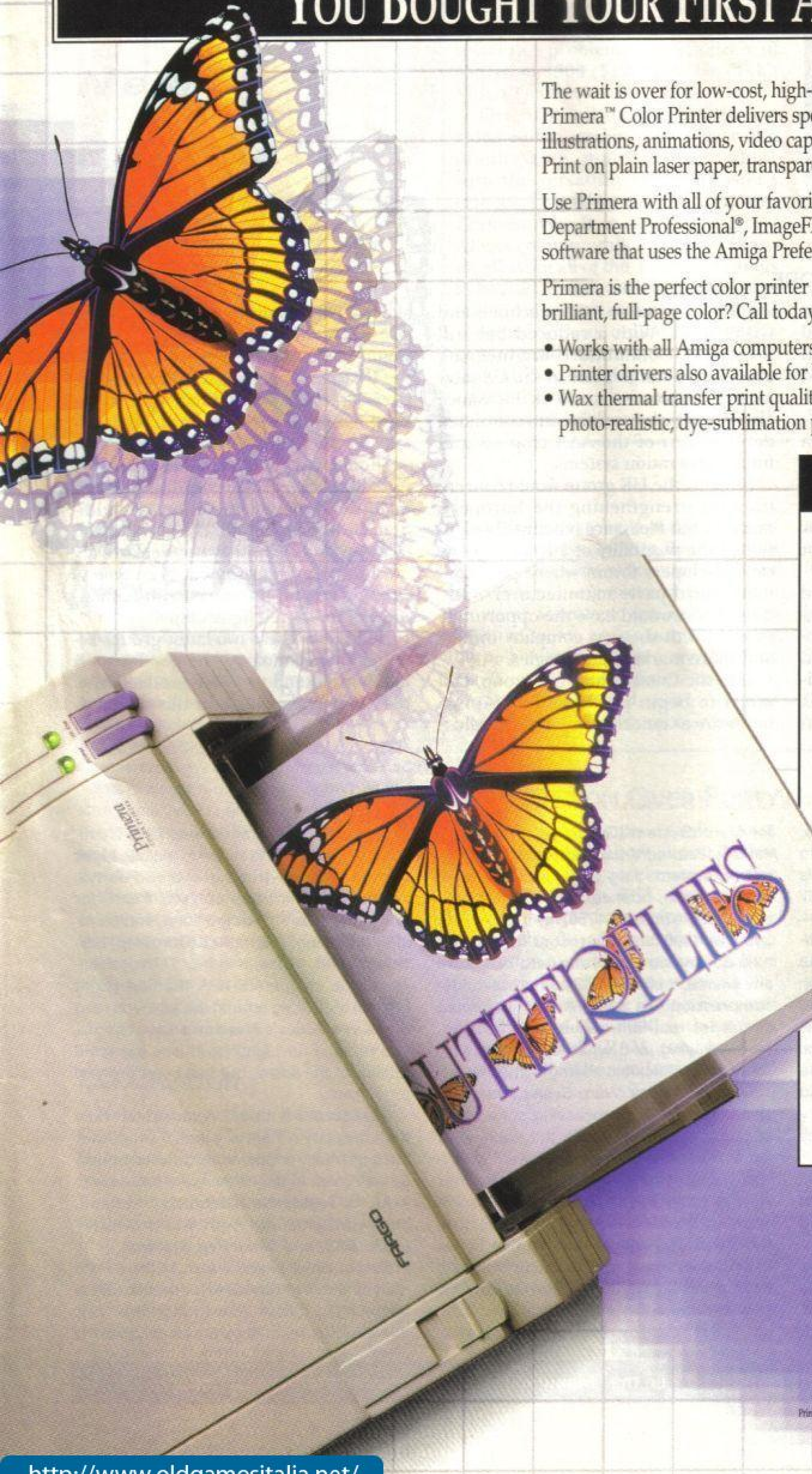

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OVERSCAN

MORE BIDS FOR COMMODORE

It's hurricane season in the Bahamas—and it isn't just the tropical winds that are a-blowing: The legal storm to acquire Commodore has stirred things up considerably. Along with proposals from Samsung and Amstrad/Philips Electronics, the accounting firm of Deloitte and Touche (the Bahamian Supreme Court-appointed liquidators) is reviewing two new bids—one from the management team of Commodore UK and the other from Creative Equipment International (CEI) of Florida.

The Commodore UK group, headed by Joint Managing Director David Pleasance, told *AW* that if it acquired the technology, the first order of business would be to revamp production and to get Amigas on dealers' shelves by the first week in November. Initially, production would be limited to AGA machines and CD32 units. With a reduced but still functional Commodore Engineering group of 20 still in place in the US (now located in Norristown, PA), Pleasance also stated he is committed to continued development of the AAA chip set and future-generation systems.

Initially, the UK group would concentrate on strengthening the European markets, but Pleasance has already mentioned the possibility of a North American developers forum where programmers, third-party manufacturers, and distributors would have the opportunity to meet with the new company owners and share marketing strategies.

Like the Commodore UK group, CEI wants to begin production of Amiga hardware as quickly as possible should it acquire Commodore. According to CEI president Alex Amor, the company would use existing engineering sites in the US (manufacturing would take place overseas, much as CBM had done in the past). CEI wants to concentrate on revitalizing the North American market.

Should CEI get the bid, Amor plans to host both North American and European developers conferences. In addition, CEI's plan calls for the introduction of a new product within two weeks of acquisition (the company has been quietly working behind the scenes with remaining Commodore engineers).

If either of these two latter groups acquires the technology, the good news is that both intend to revive production of the Amiga. Stay tuned for the outcome.

—TW

AT SIGGRAPH, AMIGA'S VOICE IS SMALL BUT MIGHTY

ORLANDO, FLORIDA—Two years ago, *AmigaWorld* traveled to Orlando in July to attend the '92 World of Amiga show. This year there was no WOA, of course, but *AW* made a return trip to the Disney domain—this time to cover SIGGRAPH '94, the computer graphics event. According to one source, Amigas used to be represented in equal proportion to PCs at SIGGRAPH. Unfortuately, the Amiga's recent plight was evidenced by a small number of machines on the show floor. But praise be to the enthusaistic Amiga developers who did show up. Their plans will continue to carry the Amiga into the future—as third parties have done with the Amiga all along.

Two such developers, ***NoahJi's*** and ***CDC*** (Cybernetics Distribution Company, handling both US Cybernetics hardware and Cybernetica software), shared an AmigaDOS-only booth. Both showed some exciting new products, and neither has any intention of abandoning the Amiga market.

NoahJi's, the new exclusive distributor for MacroSystem (Germany) products in the US, featured **V-Lab Motion**, a nonlinear editing system. Jorg Sprave, president of MacroSystem, hopped the Atlantic to explain that the board ($1750) fits in an A2000, 3000, or 4000, and can record full-motion, high-quality video to your hard disk from any source. It offers JPEG compression/decompression (via a high-speed integrated circuit for real-time results), genlocking, chromakeying, and what looked like very powerful and flexible editing software.

US Cybernetics' Warp System transputer can boost your processing speed substantially (even more with the addition of extra chips), but it requires software specifically adapted to it. Among CDC's offerings were a Warp System-adapted version of Adspec's Aladdin 3D. Also, CDC announced Cybernetica's **Reality Prime Engine Series** of software, a system of modules designed to work initially with Warp System, and later with other software on a standard Amiga. These releases, each with the Engine tag, will add a host of options for 3-D animators. The lineup is slated to include **Light Engine** (for ray-tracing and radiosity), **Physics** (for animation control), **Paint** (for image processing, compositing, and painting), **Modeling, Animation, Morphing, Particle, Sound, Video**, and more. The releases will be staggered, with the first (Light Engine) appearing around the time you read this. Cybernetica's **Newton's Law** (animation module for LightWave) was expected to ship at the show, but has been delayed temporarily.

DeskStation's booth demostrated how the company's **Raptor** parallel processor for LightWave works with other products as well. Also in the booth were ***Interworks*** (with its **ToasterNet** networking system), and representatives from ***Warm & Fuzzy Logic, DKB, and Black Belt Systems***.

Fargo, which made waves in the Amiga market with its **Primera** color printer, made another big splash with **PrimeraPro**. This dye-sub/wax thermal color printer upstages

To locate the vendors of products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p. 60.

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News and New Products

the original Primera by promising 600x300 dpi output (the sample prints are simply incredible!), plus laser-quality text.

NewTek's large booth featured a Flyer demo, and had LightWave running on the PC. NewTek is not alone in finding other baskets for its eggs, and this should actually be good for the Amiga market; while we wait for news on the Amiga's future, it is important that Amiga developers stay financially healthy.

NewTek announced several Toaster-compatible products, including the **Eagle Tower 4000** ($899, ***Eagle Computers and Video***), a chassis offering lots of slots: two for video, seven for Zorro II/III cards, and five PC/AT slots, plus extra drive bays and a 300-watt power supply. Another, **PowerMacros for LightWave (CineGraphics)**, is a collection of 17 time-saving functions for animation, modeling, layout, and pie-chart generation. Across the way, ***Desktop Images*** showed off its collection of Toaster/LightWave instructional videos. And ***Blevins Enterprises*** demonstrated **VertiSketch**, a nice 3-D digitizing system that works with LightWave (see the review, p. 10).

What the Amiga's representation lacked in numbers it made up for in other ways. Whatever happens with the Amiga technology, many developers continue to see promise in this market.

—BG

CD CREATOR

Now you can create your own CDs (for CD32, CDTV, or A570) just like ***Optonica's*** Insight series of reference titles (Insight: Dinosaurs; Living Body; Technology) with **Interplay** (£995), a multimedia authoring system. Interplay features a WYSIWYG point-and-click interface with online help, so you won't need to brush up on your programming skills. With the system, you simply lay out pages and add media clips at will. It requires an Amiga 2000, 3000, or 4000 with 4MB or RAM and a hard drive.

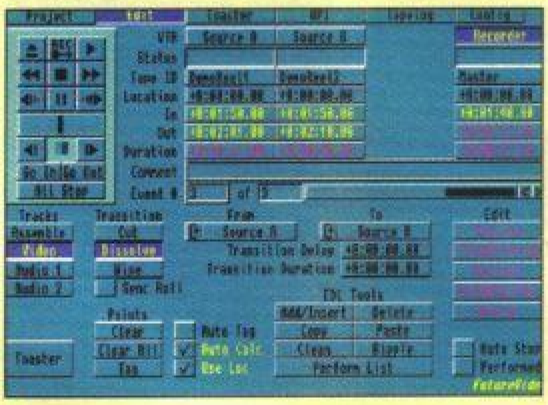
FUTURE EDITING NOW

Left cold by video editors that cost more than your last car? ***FutureVideo*** solves that problem with the release of **V-Station 3300** ($1295) for NewTek's Video Toaster.

The A/B roll hardware/software video editor combines the power of a multitasking, multiple-event editor with the versatility of the Toaster's effects, character generation, and Framestores. It is capable of direct ARexx communication with the Toaster, allowing all of the Toaster's settings to be read directly back to the V-Station and saved as part of the event record.

Armed with an online help system, easy-to-read software screens, and a built-in Tape Logging capability, video editing has never been easier.

V-Station 3300 is compatible with various "prosumer" VCRs and camcorders fitted with Panasonic's Control-M or Sony's Control-L (LANC). Powerful options including VTR Driver Kits, SMPTE/EBU time code (LTC) readers, upgradable software, and controller firmware are also available.



FutureVideo's V-Station 3300 features and intuitive, point-and-click interface.

SUNRIZE SOUNDOFF

SunRize Industries is making a lot of noise these days with its **SoundSwitch** ($499) eight-channel audio mixer. It puts the Video Toaster in complete control of up to four stereo sources so you won't have to click on a Crouton while moving slider controls on a mixer simultaneously. Just plug SoundSwitch into your floppy drive port, click on a Crouton, and voila . . . you've switched your audio with your video. It automatically switches to the correct audio sources when you do a transition and performs cross-fades flawlessly. SoundSwitch claims to sound even better than your CD player with its dynamic range of 95 decibels. It includes the Mixer, Meter, and SMPTE modules from SunRize's Studio 16. It is compatible with any edit controller for the Video Toaster, including NewTek's Video Toaster Flyer and RGB's AmiLink.

ACCELERATION OVER FORTY

Whoever said you need to slow down after forty didn't know about **Fusion Forty 60** , a new accelerator for the Amiga 2000 from ***RCS***. Featuring a MC68060 CPU from Motorola, the Fusion Forty 60 is fully compatible with the Toaster, as well as Imagine 3.0, Real 3D, Caligari, and other programs.

Current users of the Fusion Forty can upgrade their MC68040 without having to replace the RAM; the board accepts up to 32MB in industry-standard 1x8 or 4x8 SIMM modules.

The MC68060 contains a floating-point unit, an MMU, and a new feature called Superscalar, which enables the unit to detect, dispatch, execute, and return results from more than one instruction during each cycle. The clock speed is rated at 50 MHz, with a 60 MHz model to be released later. (A version for the A4000 is in development.) Registered users of Fusion Forty should contact RCS for upgrade details.

TRUETYPE FOR AMIGA

TrueType fonts are everywhere. Now you can buy and convert them for your Amiga with ***Soft-Logik Publishing's*** newest TypeSmith font-editor upgrade. In addition to TrueType font support, version 2.5 offers enhanced hints for PostScript fonts, more ARexx commands, and improved printed font previews.

TypeSmith 2.5 can load and save fonts in TrueType, PostScript, Compugraphic Intellifont, Soft-Logik, and IFF RFF formats, and convert them with the new Batch Convert ARexx macro. With this macro, entire directories of fonts can be converted at the press of a function key. This enables you to include fonts from any format into programs such as PageStream, Art Expression, Professional Page, DeluxePaint, Final Writer, Brilliance, LightWave, and the Toaster Character Generator.

TypeSmith 2.5 is $199.95; registered owners of version 2.0 can upgrade for $25.

Prime-Time PD

ON-LINE SOURCES FOR FREELY DISTRIBUTABLE SOFTWARE

By Tim Walsh

Amiga telecomputing rule #1: If you want a good telecommunication program, your first stop should be the public domain. That's been the steadfast rule, because the inferior commercial offerings lack the sophistication and aggressive support of those found online.

Written by telecommunication experts, these programs place a heavy emphasis on the necessities: ARexx, multiple protocols, easy-to-edit phonebooks and multiple terminal emulation for dealing with fussy BBSs.

TRI-POWER LINEUP

Three popular PD telecommunication programs (NComm, VLT, and Term) have recently received major upgrades. First and foremost, Torkel Lodberg's NComm now resides at version 3.0. A fully menu-driven 2.0/3.0 program, there's full support for ANSI and VT100 terminal emulation in 8 or 16 colors. There's support for IBM graphics and Shanghai windows, as well as interlaced, PAL, NTSC, and overscan screens. NComm operates nicely on both Public and Workbench screens.

Speed-wise, NComm connect rates go up to 115200 baud (31250 baud on an unaccelerated Amiga). You'll also find full ARexx support, with an ARexx interface—complete with file requesters—that offers access to all script and menu commands.

The NComm 3.0 archive contains many files, most importantly the XPR standards called XPRKermit.library and XPRZmodem.library for file-transfer protocols. The XPRKermit.library supports 1K packets, but is saddled with bugs that become readily apparent when you download files from CompuServe—the most common use for the Kermit protocol. The XPRZmodem.library is needed for Zmodem protocol transfers, and it performed without incident. Installing NComm 3.0 provides the added bonus of automatically inserting V38.1092 of Nico François' ReqTools to your Libs directory.

Of the three terminal programs presented here, NComm 3.0 was second-fastest to get up and running. Once all the required files are in place, an intuitive, logical interface makes it easy to use.

THE LITTLE ONE

Willy Langeveld's VLT (Valiant Little Terminal) shareware program has recently been updated to version 5.865. There's also another rendition of this popular program, VLTjr v5.867, which is identical to VLT5.865 except that it lacks support for Tektronix graphics.

VLT, which works under AmigaDOS 1.3/2.0/3.0, features VT100 emulation and support for Tektronix 4105 and 4107 terminals. VLT enjoys updated requesters, menus, and support for online AmigaGuide help. Like NComm, VLT uses 2.0 public screens, and under 1.3 it uses a screenshare.library. Like other programs of the genre, it uses ASL file and font requesters with 2.04/3.0, and a simple string requester for fonts when it's operating under 1.3.

VLT might present some pain and suffering for rookies. Since you won't find any XPRZmodem or Kermit file-transfer protocols in the archive, you'll need to don your cyberspace Sherlock Holmes cap and do some investigative online snooping to find them (plenty are readily available).

VLT also uses ARexx scripts to perform all manner of functions, and this requires more than just a passing acquaintance with ARexx. With an ARexx interface to speed things along, this process is easy, but you need to understand the fundamentals of editing ARexx scripts, or absolutely nothing will work. With a casual evening's tweaking and fetching of needed files, you'll have a terminal program that's more powerful than the other two listed here. It's my personal favorite.

COMING TO TERMS

Finally, there is Term—Term 4.0, to be exact. You need to have at least 2MB of RAM to run Olaf Barthel's recently updated terminal program. Classified as giftware, Term's author requests donations ranging from Infocom games to videos of Jabberwocky. Intuitive control panels let you fiddle with everything, including the High-speed mode, which allows the serial driver to skip a couple of internal parity and stop-bits checks to achieve a higher throughput rate. You can adjust the baud rates via a graphical slider all the way up to 115200.

AmigaDOS 3.0 users will appreciate Term 4.0's Pen panel rendering pens. This control panel permits you to reverse the terminal colors by adapting the pens accordingly, while still retaining the correct appearance of the interface.

Should something go wrong in loading or initializing the terminal-emulation library, Term switches back to the default "ANSI/VT" emulation. Full ARexx support with an included interface makes for smooth integration.

Term 4.0, the most intuitive and user-friendly of these three programs, lets you get up and running in about two minutes. Just build a small phonebook with a couple of your favorite entries, save them, then reload the phonebook and dial. You'll find Term 4.0 comes bundled with the XPRZmodem file-transfer protocol—a real time-saver, as you won't have to search the nets in an attempt to retrieve it.

Network Voice Numbers

BIX	800/695-4882 617/354-4137
CompuServe	614/457-0802 800/848-8199
Delphi	800/695-4005
GEnie	800/638-9636
Portal	408/973-9111 ■

*Write to "Prime-Time PD" c/o **AmigaWorld** Editorial, 80 Elm St., Peterborough, NH 03458; or contact Tim through the Internet at "twalsh@bix.com".*

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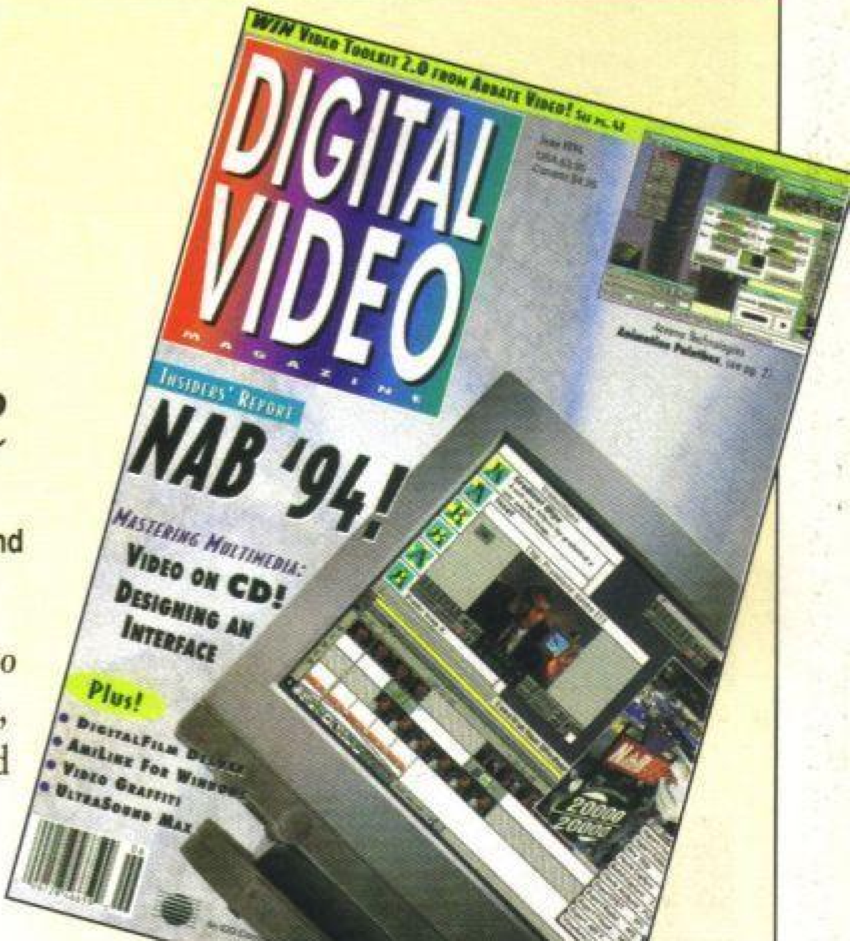
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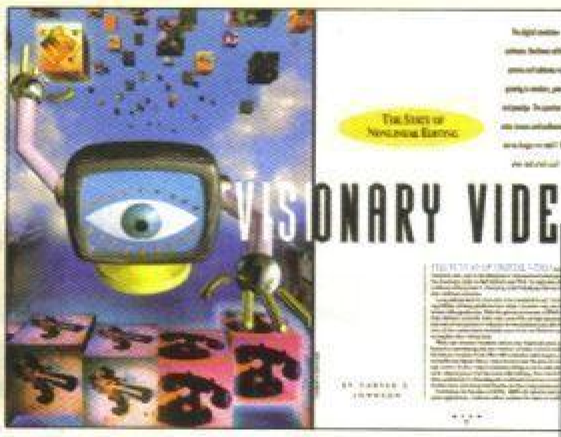
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REVIE

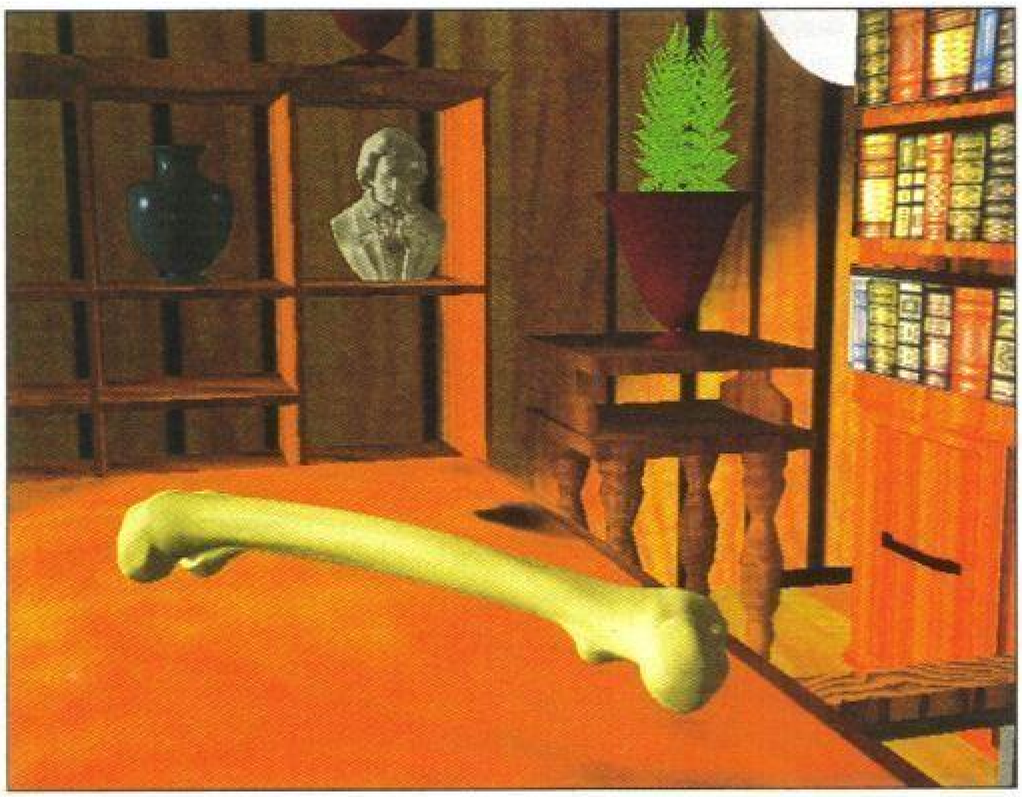
3-D digitizing system for LightWave.

VERTISKETCH S-10 DIGITIZER

Blevins Enterprises, $3995.
Video Toaster/LightWave-equipped Amiga.
2.0/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
Installation: Easy.
Minimum system: Video Toaster-equipped Amiga.
Recommended system: Same as minimum.

Creating a highly detailed object, such as a human face, requires more time and skill than many 3-D artists possess. Digitizing systems help in this process, but until very recently they have been out of reach financially for most artists. Now, lower-cost units are appearing on the market.

VertiSketch is a 3-D digitizing system that works in conjunction with LightWave. The system consists of a digitizing pen, a receiver, and an interface unit that connects everything to the computer. The VertiSketch works by using sound waves for object positioning to gather the 3-D information. Triggering a point with the pen generates a sound that is picked up by microphones on the receiver unit. That information is then transmitted to the computer.



Bone image created with VertiSketch .

To locate the vendors of the products reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 60.

MAKE ROOM FOR VERTISKETCH

A large, clear area is needed for the triangle-shaped VertiSketch receiver unit, which is typically situated on a desk next to the computer or mounted on a nearby wall. The unit comes with feet that allow it to stand up on a desktop and then to be set aside when not in use. You'll also need a sizable area in which to place the objects you want to digitize. Blevins Enterprises sells a ceiling-mounted receiver unit for digitizing large objects—even a person, if you have enough time and patience.

Installation of the VertiSketch unit involves plugging the interface into the serial port of the Amiga and connecting the digitizing pen and the receiver to the interface. After setting up the hardware, you install the software with the standard Commodore installation program, but you need to enter various parameters from tags attached to the digitizer pen and interface unit in order to properly calibrate the software. Unfortunately, my review unit did not have tags attached to it. After studying the documentation, I made a lucky, educated guess that turned out to be right. This seems to be an obvious oversight that could be easily corrected.

Once the software is installed, you need to configure some portions of LightWave Modeler for VertiSketch use. The program is started via a Modeler macro, so you need to add this to the list of macros. VertiSketch uses several Modeler function keys that you must also set up, but these are quick and easy changes. After all of this, you turn on VertiSketch by selecting the startup macro.

PERSISTENT PRACTICE

To digitize, you place the tip of the pen on the object, and a point is generated when you press the trigger on the pen or the triggering macro in Modeler. As you move the pen along the object, it identifies points that can later be connected to form

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polygons or splines, creating a complete model. A series of points can easily generate a motion path for an animation.

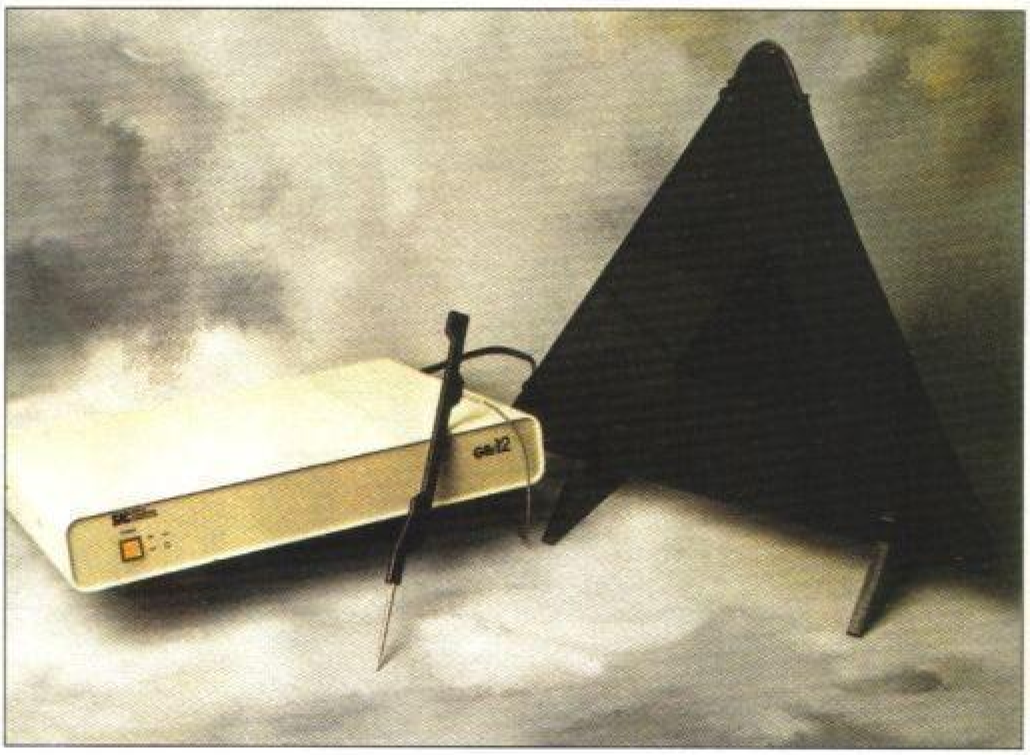
To be sure, plenty of practice and disciplined work habits are necessary to get good results. Everything from object placement to the position of the digitizing pen affects the outcome. It isn't easy: The system's unfaltering accuracy makes it suprisingly tough at first to create just a simple straight line.

VertiSketch's manual is short and terse. A few tutorials deal with the basics, but it would be helpful to have a thorough tutorial covering the entire process of a fairly complicated digitizing exercise. Even better, Blevins should bundle a test object to make the exercise complete.

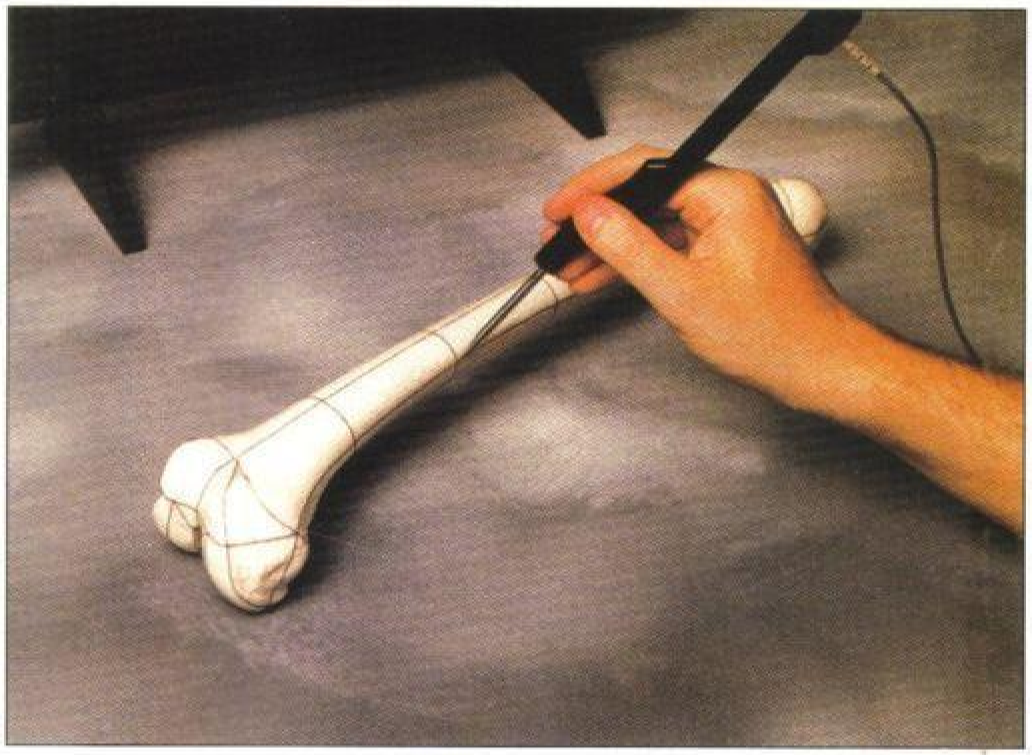
The manual gives some good tips on digitizing, including ways to secure the model (using tape or a vise is helpful) and how to use graphics tape to apply a grid to the object so that you have a pattern to follow while digitizing. In the end, though, it's practice with VertiSketch that yields the best results.

VertiSketch clearly adds a powerful tool for 3-D artists. While you can't master it overnight, it allows you to create realistic models—and you can get it for about a third of the cost of digitizers made for other platforms! It is an excellent value, and I recommend it to anyone who has both the need and the time required to deal with its steep learning curve.

—Dave Thomas



VertiSketch's hardware: The controller, pen, and signal receiver.



Patience and practice are needed with VertiSketch's pen.

Educational and entertaining astronomical software.

DISTANT SUNS 5.0

Virtual Reality Laboratories, $99.95.

All Amigas.
2.0/3.0 compatible (requires AmigaDOS 2.04 or higher).
Hard drive required.
Not copy protected.
Accelerator compatible.
Minimum system: 2MB RAM.
Recommended system: AGA Amiga.

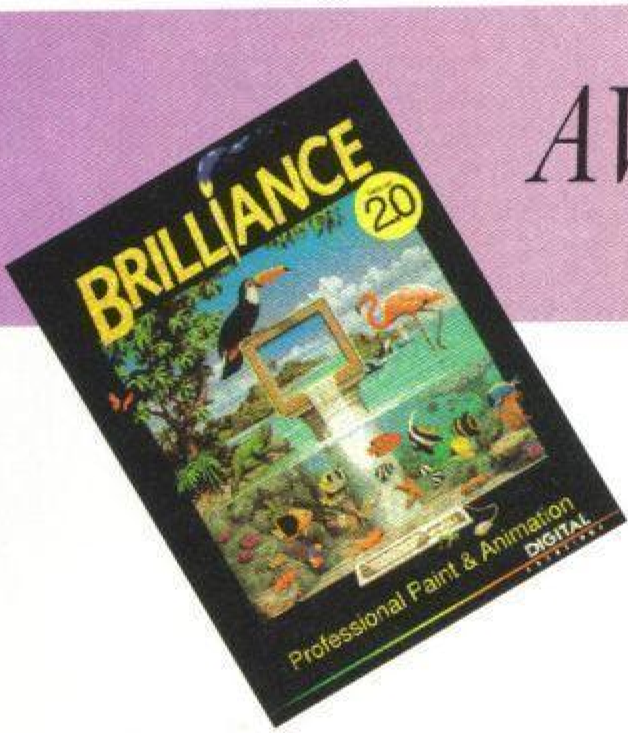
The latest iteration of Mike Smithwick's astronomy program, Distant Suns 5 (DS5), introduces a sizable list of new features and improvements. Just as in earlier releases, DS5 lets you view an accurate representation of the heavens from a variety of locations on Earth, or you can choose other observation points, seeing the solar system as might an approaching alien visitor, for example.

In addition to changing your viewing location, you can—by choosing any time between 4713 BC and 10,000 AD—get an accurate representation of the appearance of the heavens far into the past or years into the future. You can observe up to 10,000 stars and 2000 galaxies; in fact, Virtual Reality Labs claims that the Distant Suns database can display up to 16 million stars if you possess the appropriate add-on disks. Using a convenient animation feature, you can also create your own animation files of the planets circling the sun, or recreate and

Continued on p. 42.

AW Feature Review

By Paulo de Andrade



BRILLIANCE 2.0

BRILLIANCE 2.0

Digital Creations, $99 (upgrade, $49)

All Amigas.
1.3/2.0/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
2MB RAM required.
AmigaDOS 2.0 or higher, 4MB RAM, hard drive, and accelerator recommended.

Digital Creations listens to Amiga users. How do I know? Because the 2.0 update of Brilliance incorporates asked-for changes. Besides that, it offers useful new features and an attractive new price, making it one of the best buys in the market today—not only the Amiga market, but the desktop-computer market as a whole.

THE OLD AND THE NEW

As before, the Brilliance package includes two programs. Brilliance, the register-based version, supports 2–256 colors, while TrueBrilliance supports HAM and truecolor, 24-bit images. The two programs are virtually identical except for some mode-specific features. TrueBrilliance does not support color cycling, for example, but Brilliance does. And whereas Brilliance loads 24-bit pictures but automatically converts them to fewer colors (depending on the mode you choose), TrueBrilliance lets you load and create true 24-bit images.

The original Brilliance version used two forms of copy protection: a dongle (which is cumbersome and limits multitasking) and a serial-number passcode. Users everywhere complained. For those who refused to buy Brilliance 1.0 because of this, I have good news: release 2 is not dongle-protected. In fact, it has no copy protection at all.

NUOVO OPTIONS

Brilliance lets you create all sorts of graphics, from still pictures to animations for video or multimedia. The new release even includes an animation-presentation mode that helps you put your animations to videotape in forward or reverse order at the click of a button. When the last frame is reached, the program displays it until you issue a command to end.

Version 2.0 includes virtually all of the animation functions that you find in Electronic Art's DeluxePaint, and more. The tweening menu (equivalent to DeluxePaint's move), for example, not only gives you more options, but also allows you to visually adjust your start and end brush positions visually, using a three-dimensional wireframe representation of your brush. Because tweening now allows you to load and save paths to disk, you can create generic paths to be used with any brush, and you can merge paths to create complex animations. Moreover, tweening now offers a multitude of keyboard shortcuts to soup up your animation process.

The program gives you very precise control over your animations, and it uses common Amiga animation file formats. Even the standard animbrushes are fully supported. Release 2 includes the useful Flip Book function, which mimics the traditional flip-book technique used by animators. You can set your own frame limit, and Flip Book will automatically flip through the next animation frames, forward or backward, allowing you to check your character's movements and frame differences. Animation playback, by the way, is very smooth, and the program can switch between frames instantly, even when it's not in animation-playback mode.

TrueBrilliance has a new "magnify with true view" option that is handy. Usually, when you magnify a section of an image in HAM mode, you magnify not only the image but also the HAM artifacts that produce fringing. With the true-view option, you can zoom in without seeing fringing—and this aids in precise work. Another addition to Brilliance's toolbox is Rub Thru, which lets you, while you're painting, replace your present image with parts of whatever image is in the swap buffer.

One of my favorite new features is the very good antialiasing tool. (I have used it very successfully, especially in conjunction with text, to avoid the jagged edges this type of software commonly produces.) I also like using the new grid option with the zoom tool. You can turn on a visual grid while greatly magnifying

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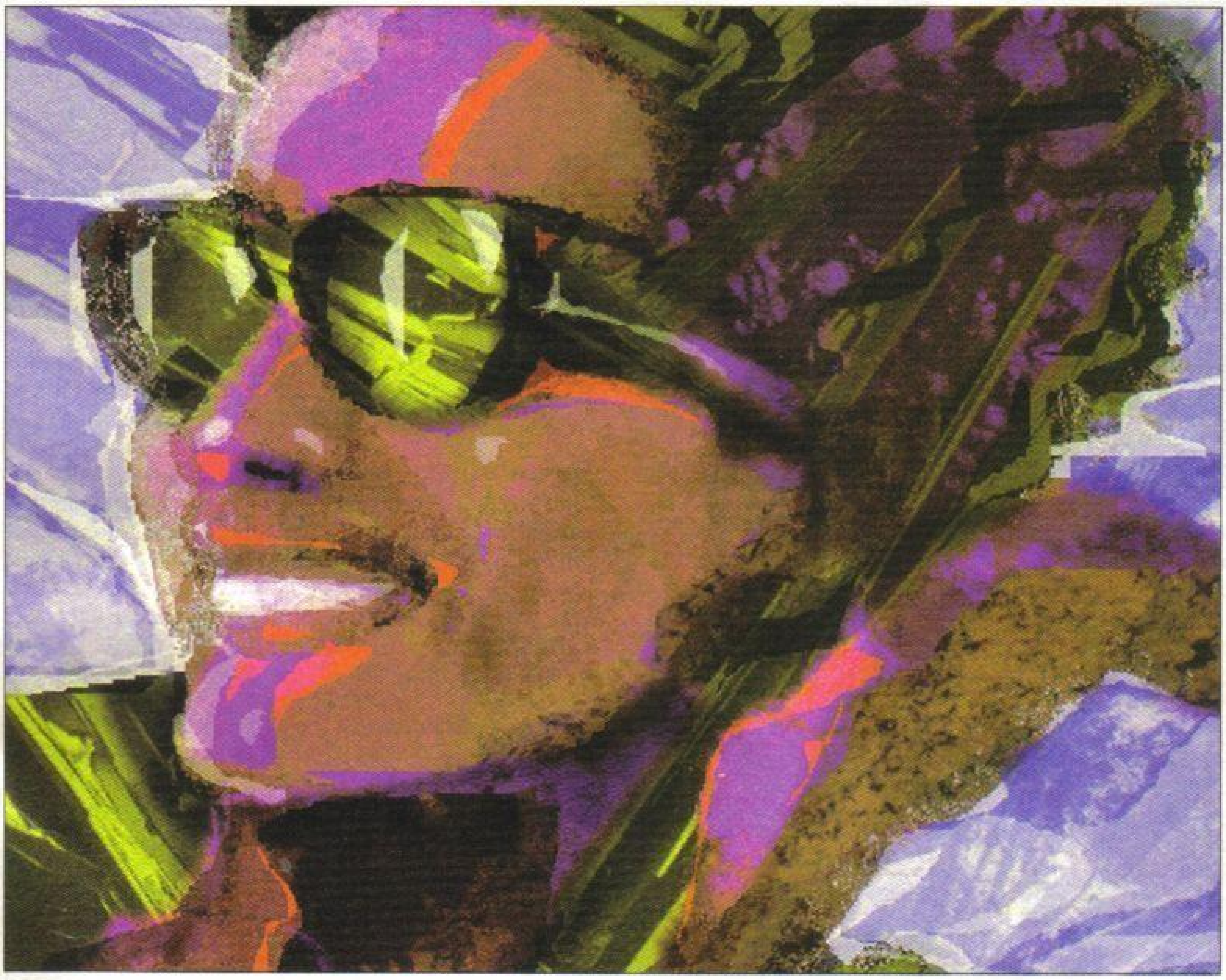
It's, well...brilliant! And, it's the new standard.



an area and still be able to distinguish every individual pixel for precise work.

Good Ol' Features

Users of Electronic Arts' DeluxePaint will find Brilliance very familiar: Most keyboard commands and shortcuts are the same. Therefore, moving from DPaint to Brilliance is fast and intuitive; you will need to learn only the new features, not relearn ones with which you are familiar. This is invaluable because, believe me, Brilliance is a significantly more powerful program, and there are several new commands to learn. (Both sides of the 8.5 x 5.5-inch quick-reference card are filled with commands printed in seven-point type!)

Brilliance lets you have multiple menus open simultaneously so you can control several things at once. While the menus can easily clutter the screen and obscure the image you are working on, they offer plenty of options and can be hidden instantly by pressing the F10 key. Pressing F9 hides all the menus but the main one. At first, the menu system felt a little strange, but I quickly got used to it and ended up liking it; the design is highly intuitive.

Other little touches make life easier, especially for new users. As you position your cursor over the tool icons, for example, the tool function is displayed at the right of the screen. Color selection is also made very simple, and you can create and manipulate your palette in RGB, CMY, and HSL modes.

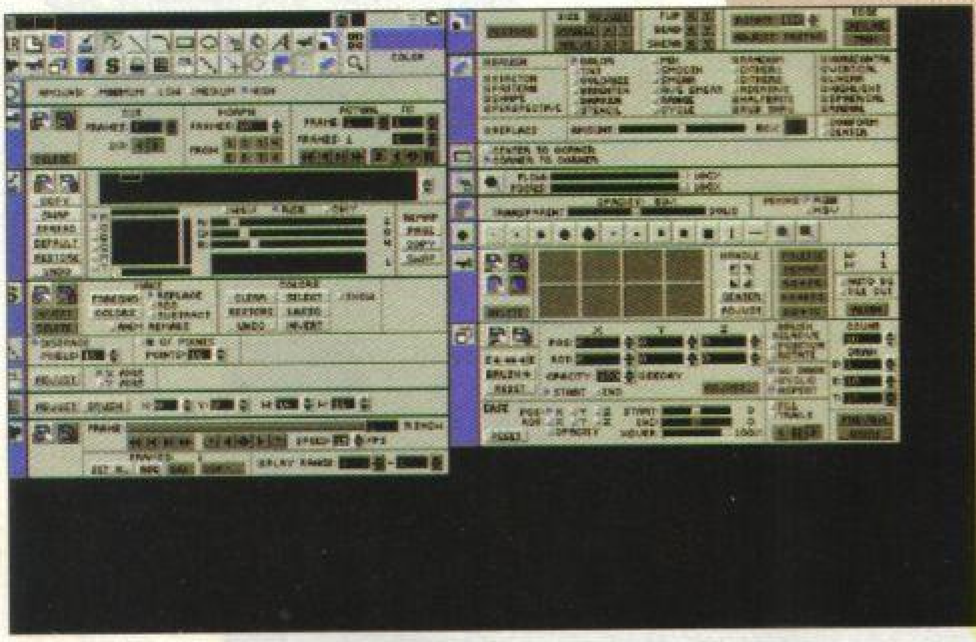
The multiple-level undo function is priceless. In many paint programs, if you make a mistake and accidentally perform another function before you click on undo, you are out of luck; the undo clears only the last action. With Brilliance, you can press undo almost any number of times to clear previous operations; only your memory limits the number of levels to which you can go. So feel free to experiment with your graphics—getting back to the original is just a few clicks away.

Lasting Impressions

One major thing I wanted that this update left out was a "light table" or "onion skin" mode. The lack of this feature makes character animation more difficult, as ►

you cannot see the information on the previous frames directly under the current one. I'd also like to see a smooth airbrush. Although you can approximate one by adjusting transparency, focus, and flow, the results are not as good as those you get with OpalVision.

Brilliance 2.0 comes with the original manual—a good-looking book printed on glossy paper. It includes many illustrations, tutorials, and an index (which should be a must, but is not found in many manuals). The 2.0 addendum explains the new features and lists changes and corrections to the version 1.0 manual.



Your wish is Brilliance's command. You'll feel like a master when you explore 2.0's feature-filled menus.

Thanks to added features, reduced price, and the elimination of the dongle, Brilliance 2.0 has become my favorite paint and animation workhorse, replacing DeluxePaint for everyday use. I see Brilliance 2.0 as a perfect upgrade for DPaint users. It is just as easy to use, offers more and better features (except that it lacks DPaint's light-table function), and it lets you paint in true 24-bit. And like NewTek's ToasterPaint, TrueBrilliance lets you paint in real time in HAM mode while your images are processed internally in 24-bits. TrueBrilliance, however, gives you many more tools than ToasterPaint. Finally, Brilliance 2.0 compares favorably with graphics software on other platforms, offering more advanced features for far less cost.

I highly recommend Brilliance 2.0, whether you are serious about graphics and animation or just want to have a little fun. If you can afford only one paint program for the Amiga (or for any computer), this is the one to buy. ■

Paulo de Andrade is president of Digital Reality, an animation/video production company in Seattle. Write to him c/o ***AmigaWorld****, Editorial Dept., 80 Elm St., PO Box 802, Peterborough, NH 03458-0802.*

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We Need Somebody . . .

Now that CBM's disbanded,

where can you find help

for your Amiga?

HELP! COMMODORE'S GONE! Are we orphans? Is it time to panic? No! Stop and consider the situation. You already have an Amiga, so the fact that Commodore's not making new ones won't affect that. You might want to expand, but how many of the peripherals you've purchased so far actually have the Commodore label on them? Darned few, I bet. And you probably use little Commodore-labeled software. So what was it we needed Commodore around for, anyway?

Seriously, of course it would be better if Commodore were still alive to manufacture Amigas, build spare parts, update the operating system, and attract new users. But even if not a single new Amiga is ever made again, there are already nearly five million of the machines out there, and with a market that big, we should have hardware and software support for years to come.

Still, things go wrong, and it's good to know where to turn when you have problems, so let's take a look at some of the support options still available to Amiga owners. *(To locate the companies mentioned in this article, see the "Manufacturers'/Distributors' Addresses" list on p. 60.)*

Hard Days in the Commodore Night

Probably your biggest worry is what to do if you have a hardware failure. Commodore itself didn't actually do repair work on Amigas under warranty; instead, the company had a contract with the ***Service Management Group*** (SMG), a Maryland corporation wholly independent of Commodore. Soon after CBM filed for liquidation, SMG sent out a press release confirming that it was doing business as usual and that it would continue to sell parts and provide service for Commodore products.

SMG offers an extended-warranty service contract called ProCare (formerly known as Gold Service). SMG's Rick Stein confirms that all current ProCare contracts are being honored, and the company is even continuing to sign up new users. As long as your Amiga is in working condition, you can sign up for ProCare. To find out more about it, contact SMG.

Warranty coverage is more problematic. SMG administers Commodore's warranty service, but doesn't itself perform the warranty-covered work. Instead, dealers do the repairs, getting parts through SMG and then being issued credit from Commodore for the work. Stein says that due to the current liquidation proceedings, Commodore is, of course, no longer issuing credits. Dealers can still get most parts from SMG, but for the time being they're having to absorb the expense of the warranty work themselves.

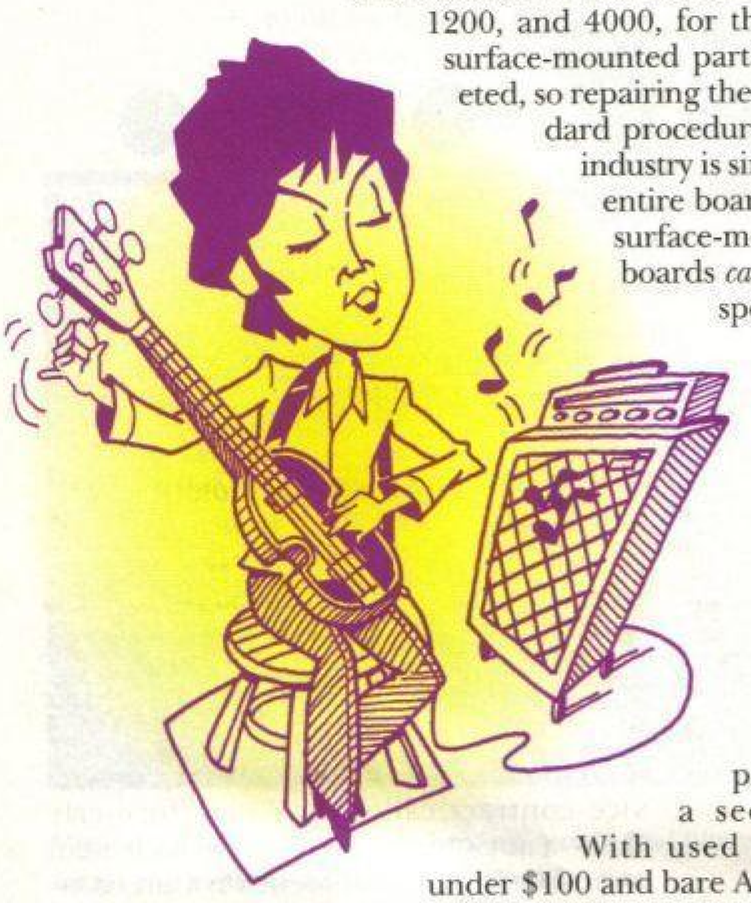
What this boils down to is that if you're purchasing a new Amiga, you should make sure your dealership explains its warranty commitment and its ability to repair machines. If possible, get your dealer to put the warranty policy in writing.

If your Amiga is out of warranty and you don't have a local dealer, or your dealer can't fix your problem, you can contact SMG's repair depot. If it's a repairable problem, you'll probably be able to send the machine to SMG to have it fixed.

Parts of the Problem

Unfortunately, all Amiga failures may not be easy to repair, especially if you own a newer machine. Amigas use a number of custom microchips—such as Alice, Lisa, Agnus, Denise, and the 8520 CIA chips—that aren't used in other computers. With ►

By Denny Atkin



Commodore in limbo, these chips are no longer being produced, so replacement chips will eventually run out.

The situation is most dire for the Amiga 600, 1200, and 4000, for these machines use surface-mounted parts that aren't socketed, so repairing them is difficult. Standard procedure in the computer industry is simply to replace the entire board that has a failed surface-mounted part. Such boards *can* be repaired, but special equipment is required to do the job.

Some may wonder what parts they should consider stocking up on in case of trouble. Actually, if you have an older Amiga, your best bet is probably just to buy a second computer. With used A500s going for under $100 and bare A2000s reselling for $300 or less, it's more economical to purchase a back-up machine that you can cannibalize for everything from a processor chip to a floppy drive. The most failure-prone chips on classic Amigas are the 8520 CIA chips that control the I/O ports, so if you don't choose to pick up a spare machine, getting a pair of 8520s would be a good idea. Note, also, that many parts are interchangeable between the A500 and A2000, so if you have an A2000, a used A500 will give you a complete set of custom graphics chips, 8520s, and other assorted spares.

Buying spare chips isn't an option for owners of Amiga 600, 1200, or 4000 machines, which all have motherboards packed with surface-mounted, instead of socketed, parts. If your computer is vital to your business, you should seriously consider picking up a second machine, just in case.

SOURCES OF SUPPORT

What if you're having problems with some software you've purchased, or you're not sure how to hook a CD-ROM drive to your Amiga? Of course, your best bet is to contact your local dealer if you have one. Failing that, a wide variety of support options is available to help you with questions both simple and obscure.

SMG has a rather expensive option that might be justified in a crisis. The company offers general Amiga technical support for $10 for the first minute and $1.50 per additional minute at 900/740-8764. If you're having a configuration or hardware problem and you need an urgent answer, this might be worth the cost.

Of course, all the third-party software and hardware companies that support the Amiga didn't go "poof" the day Commodore filed for liquidation. Although a few notable Amiga companies such as New Horizons have shut down recently, most are still doing business as usual and have publically stated that they plan to continue supporting the Amiga as long as there's a demand. Even those companies that have stopped developing new Amiga products, such as Gold Disk, still offer technical support for their products.

When I sent a note around the online networks announcing that I was working on this article, a number of companies posted notes reaffirming their commitment to continued support and development for the Amiga. These include Advanced Systems and Software, Black Belt Systems, The Blue Ribbon SoundWorks, CSA, Centaur, Digital Creations, DKB, Intangible Assets Manufacturing, Itchycoo Productions, MacroSystem Development, MegageM, Nova Design, OIC, Prolific, Scala, Soft-Logik, Utilities Unlimited, and Virtual Reality Laboratories. Of course, there are dozens of other Amiga companies out there offering support for their products.

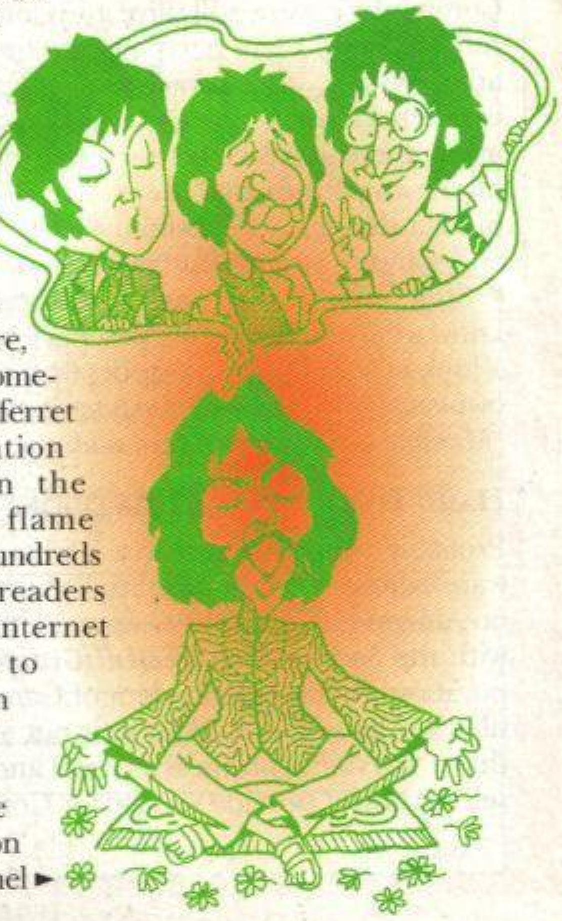
Some of the best support you'll ever find, though, comes from other enthusiastic Amiga users. Online networks and Amiga users' groups are the first places I look when I have a question.

TUNE IN, LOG ON

With a modem and appropriate software, you can tie into local bulletin-board systems or national online services and get help for your Amiga problems from helpful users in your own hometown—or all over the world. You'll also be able to download programs—such as disk-repair utilities and system-diagnostic software—that may help you out of a jam.

The least expensive option is to log on to a local bulletin board. These are usually free, although many reasonably ask for a small donation to help pay for equipment, software, and phone-line rental. Local bulletin boards used to be places where you'd find help only from local-area users and a few long-distance callers. Nowadays, though, many are tied into national relay networks, such as the Fidonet, which are read by thousands of Amiga users.

Another good bet—if you can find a local-access provider—is the Internet. There are a number of Amiga-specific newsgroups (message bases, in Internet lingo) such as comp.sys.amiga.hardware, comp.sys.amiga.productivity, and comp.sys.amiga.emulations. Beware, though, for it is sometimes difficult to ferret out the information hidden between the arguments and flame wars. Still, with hundreds of thousands of readers worldwide, the Internet is a great place to find help for even the most obscure problems. You can even get live troubleshooting on the #Amiga channel ►



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http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

on IRC (Internet Relay Chat), a chatline that's active 24 hours a day and populated by Amiga users around the world.

An even better option is to set up an account on one of the national on-line networks. You'll find excellent Amiga support on BIX, CompuServe, GEnie, and Portal. As with the Internet, Amiga areas on these networks are read by thousands of users across the country. However, the online networks have a much more favorable information-to-noise ratio than the Internet (probably because they're populated by people paying for access, whereas the Internet is often packed with college students who seem to have too much time on their hands).

BIX is the network where Commodore used to handle developer support, and it's the prime spot to hang out in if your problems relate to programming the Amiga. You'll even find a number of former Commodore hardware and software engineers hanging out there. CompuServe has four Amiga-specific forums—AmigaUser, AmigaTech, AmigaArts, and AmigaVendor. You'll find a knowledgeable bunch of users here, as well as online support for a number of Amiga companies. Of the major networks, the CompuServe Amiga Forums have the most vocal users from Europe, so it's a good place find out the scoop on happenings overseas.

GEnie sports the StarShip Amiga RoundTable for general Amiga discussion, as well as the Pro/Am RoundTable for programming topics. GEnie is populated by a very friendly bunch of folks, and you'll never feel that you've asked a dumb question. Finally, there's Portal's AmigaZone, where you'll find informative message bases and a well-stocked vendor-support area. One of Portal's best features, though, is full Internet access, so if you can't find the answers you need in the AmigaZone, you can reach out into cyberspace and see if you can get help on the Internet newsgroups.

HELP FROM MY FRIENDS

Users' groups are a good place to get help with your Amiga problems and also to make new Amiga-using friends. Generally, they are non-profit groups composed of computer owners with similar interests. In large cities, you are likely to find an Amiga-specific group. In smaller locales, there may be just a general group whose members own Amigas, Macs, PCs, and other computers.

Of course, the first trick is finding the local group. Check the listing in *AmigaWorld*'s July '94 issue (p. 28) to see if there's a group near you. If there is none, your next best bet is to contact local computer dealers to see if they can point you to a nearby group. You might also check the weekly organization meeting-schedule listings in your local newspaper, or, if you have a modem, log onto a local BBS and ask there.

If it turns out that there's no local group already supporting the Amiga, try contacting another users' group to see if they're interested in starting an Amiga SIG (Special Interest Group). Or just start your own. It's not difficult—all you need is a place to meet and at least one other interested Amiga user. Publicize the group through computer stores, computer bulletin boards (and postings on the cork type of bulletin board as well), newspaper club-meeting lists, and word-of-mouth; you'll have a real group up and running in no time.

There's more to users' groups, however, than just question-and-answer-style support. They are also an excellent way to see new products in action before purchasing them, as members are usually more than happy to bring their latest purchase in for a demo. And they're a good source for finding equipment if you have an older Amiga or no local dealer, as members are frequently willing to sell their no-longer-needed equipment and older software at bargain prices. Also, some companies offer discounts when users' groups make quantity purchases. And any dues your group collects can be used to purchase items like Fred Fish CD-ROMs, which you can use to create public-domain disks for copying at group meetings.

PAPERBACK WRITINGS

Finally, you can get a little self-help in times of trouble with the many Amiga books available. I wrote a book called *Denny Atkin's Best Amiga Tips and Secrets* (***COMPUTE Books***), which was designed from the start as a substitute for having an actual person to talk to when you have a problem with your Amiga or a question about enhancing its performance. Of course, I'm a bit close to the author, so it would be inappropriate for me to recommend it too highly.

Bruce Smith Books, an English publisher, offers a complete line of helpful Amiga books. These include titles such as *Mastering Amiga—Printers, Mastering Amiga—Beginners,* the two-volume *Amiga A1200 Insider Guide, Amiga Gamer's Guide,* and *Mastering AmigaDOS 3*.

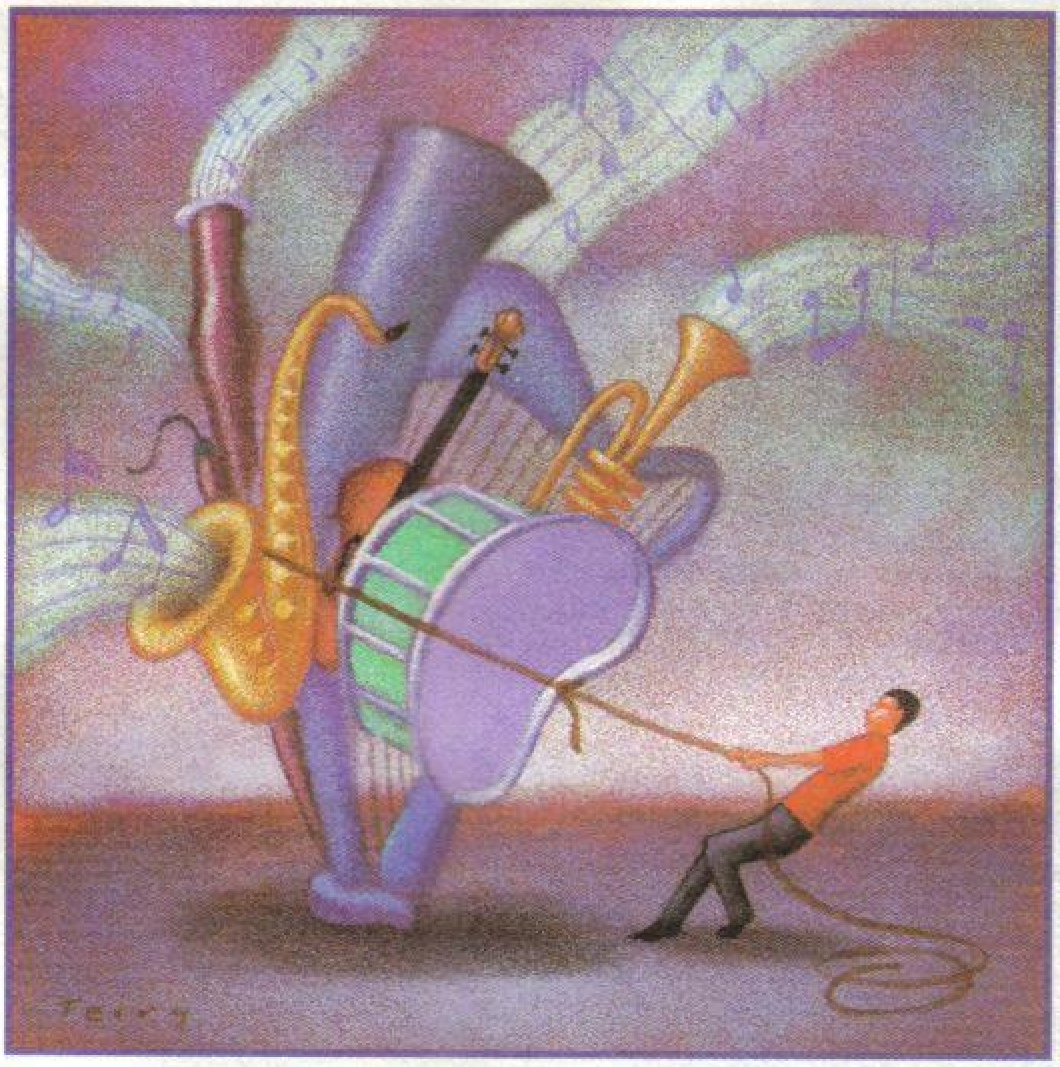
For AmigaDOS questions, you can't beat *AmigaDOS Reference Guide, Fourth Edition*, written by frequent *AmigaWorld* contributor Sheldon Leemon (also available from ***COMPUTE Books***). It covers AmigaDOS 1.3 through 3.0, and is a must-have reference. If you have questions relating to ARexx, you can't beat ***Abacus Software***'s *Using ARexx on the Amiga*, by former *Transactor* editors Nick Sullivan and Chris Zamara.

As you see, there are many resources out there that can help you continue to get the most out of your Amiga. The current Commodore situation won't cause the Amiga's extinction—it's simply causing the Amiga to move on to its next stage of evolution. ■

Denny Atkin, an editor at ***OMNI Magazine****, writes the "Denny on DOS" column for* ***AmigaWorld****. Feel free to send him your comments and suggestions via e-mail to DennyAmiga@aol.com.*

MIDI SEQUENCER JAMBOREE!

From composing to producing, sequencers are essential tools for Amiga musicians. Follow along in our jam-packed buyer's guide presenting comparative evaluations of 8 leading MIDI sequencers for your Amiga.



IT SHOULD come as no surprise that the centerpiece of many an Amiga songwriter's studio is a MIDI sequencer. After all, the Amiga has been around almost as long as the MIDI (Musical Instrument Digital Interface) standard itself, and their relationship has matured fruitfully over the years.

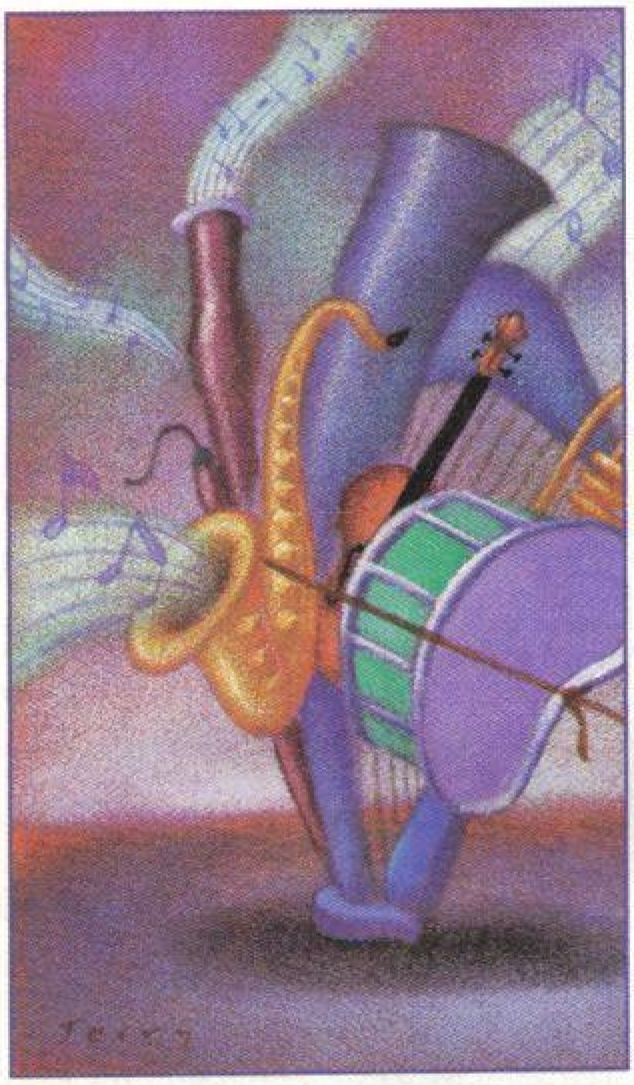
MIDI sequencers allow the recording, editing, arranging, and playback of musical performances. Over time, they have become exceedingly full-featured—the newer ones can synchronize with tape decks, control automated mixdowns, and even print your composition in standard musical notation. Not surprisingly, sequencers have revolutionized the compositional and production process, particularly for contemporary musical styles. We'll compare and evaluate eight leading Amiga sequencers to help you determine which one(s) might be best for your music-making needs.

HAVE IT THREE WAYS

There are three basic sequencer architectures in common use, and all are represented here. The first, the *linear* metaphor, is reminiscent of a multitrack tape deck. ***The Blue Ribbon SoundWorks'*** **Bars&Pipes Pro** ►

By Darius Taghavy

(B&P), ***Oregon Research***'s **Sequencer One** and **Sequencer One Plus**, and ***Dr. T's*' Tiger Cub** and **KCS Level II** (in Track mode) all fall into this category. Songs consist of parallel tracks that run uninterrupted from beginning to end. Sequencers that use this approach are easy to learn, with many of them offering powerful block-based graphic song editing.



If you're partial to drum machines, however, you'll feel right at home with a *pattern-based* sequencer architecture. Multiple parallel tracks form patterns, which are then strung together into songs using an "arrangelist." ***Diemer Development***'s **Sequel** and ***SoundQuest***'s **Quest II: Texture** operate in this manner. The pattern approach offers the advantages of quick and easy song arrangement and memory efficiency. Unfortunately, neither program allows you to continuously overdub tracks on top of a pattern arrangement (e.g., for tom fills or solos). In terms of user interface, Texture has an MS-DOS-application look and feel, while Sequel sports an unorthodox menu-less interface.

The nonlinear design of ***Hollyware***'s **Music-X** and KCS Level II in its Open mode represents the third—and most flexible—type of architecture: *sequence-based.* Here, sequences can trigger other sequences in addition to playing regular MIDI events. For instance, you can implement the pattern metaphor and still do continuous overdubs over sequence boundaries using yet another sequence. It also opens up great performance capabilities. Music-X, for example, has a powerful MIDI note mapper that allows you to interactively trigger sequences from your MIDI keyboard.

Yet, when it comes to arranging a nonlinear song structure, this power comes at a price: It's a tedious process. KCS has the edge here over Music-X because it offers specialized screens for multitrack and sequence/song arrangement, with functions to move data between them—thus effectively covering every conceivable compositional approach. But even though I prefer KCS's specialized screens over Music-X's event-list editor, I find neither one particularly user-friendly. Furthermore, while KCS's main sequencer page could be termed musician-friendly, I find that of Music-X to be the least intuitive of the eight sequencers under review. *(For prices of all sequencers covered here, see the "Comparison of Sequencer Features" chart on the opposite page. To contact the developers of these products, consult the "Manufacturers'/Distributors' Addresses" list on p. 60.)*

Which architecture to choose is largely a matter of personal preference. If you are new to sequencing and have no preconceived notions about it, you will probably adjust to any of them, although the linear metaphor offers the easiest learning curve. If you come from a drum-machine background, you'll probably favor a pattern-based sequencer. If you're more of an experimental type (or at least very patient), you might want to try the nonlinear, sequence-based architecture. Please note that pattern- and sequence-oriented sequencers are also inherently capable of operating in linear fashion, even though the ones reviewed here lack block-based graphic song editing, ►

About the Chart

MANY OF THE feature categories in the chart are discussed thoroughly in the article. Most of the remaining ones are self-explanatory, but here are some additional clarifications.

Drum mapping refers to the ability to view and edit MIDI note numbers by drum names, while *patch mapping* allows you to view and edit program changes by patch name. *Tempo Tap* is a feature with which you can set the beat by tapping a key or clicking the mouse. The timing resolution of a sequencer is measured in steps per beat, often inaccurately referred to as pulses per quarter note (it depends on the time signature). For instance, the MIDI song-position pointer used in external synchronization is 96 steps per beat, while the industry-standard internal sequencer resolution is 192. There have been hot debates as to whether higher resolution is desirable. I prefer it to be as high as possible, but 192 is probably more than adequate for most uses.

I have chosen to indicate only the primary architecture of a sequencer if it supports more than one. For instance, KCS's songmode has an arrangelist for sequences similar to that of a pattern-based sequencer, but those sequences are only single tracks. However, it does have both linear and nonlinear modes, along with dedicated screens and functions, and in this case there are two entries for it in the table.

While the new Pattern tool in B&P Pro is great for creating drum patterns, it works only on a track basis, and building up an arrangement is awkward because you have to edit the start and end times of each individual pattern in a separate window. The new ABA section-looping feature in the song-editor window is much more useful for song arrangement. B&P also has a new tool for triggering playback of a track in response to note events. While this offers some of the capabilities found in truly nonlinear sequencers, B&P is still primarily a linear sequencer.

Please realize that notation and multimedia-specific features are beyond the scope of this article and table. □

—DT

Comparison of Sequencer Features

Product	B&P Pro 2.5	KCS II 3.7	Music-X 2.0	Quest II: Texture 1.13	Sequel 1.2	Sequencer One Plus 1.3	Tiger Cub 1.1	Sequencer One 2.01
Manufacturer	Blue Ribbon SoundWorks	Dr. T's	Hollyware	Sound-Quest	Diemer	Oregon Research	Dr. T's	Oregon Research
List Price	$429	$399	$199.95	$225	$139.95	$99.95	$99	$39.95
GENERAL SPECS								
Architecture	L	L/S	S	P	P	L	L	L
Tracks	dynamic	48	255	24	32	32	12	32
Track Solo	•	•		•	•	•	•	
Track Mute	•	•	•	•	•	•	•	•
Track Group	•			•			•	
Steps Per Beat	192	1–384	192	48–192	192	192	1–384	192
MIDI Clocks	•	•	•	•	•	•		•
MTC	•		•		•			
Direct SMPTE	•(opt)	•(opt)	•(opt)					
Multi Ports	•		•					
Locators	four	six loops	four		16	32	one loop	32
Auto Punch	•	•	•	•		•		
Loop Recording	•	•	•	•	•	•	•	•
Step Recording	•	•	•	•		•	•	•
Tempo Range	10–350	10–999	10–300	20–250	20–600	28–320	16–240	30–240
Tempo Tap	•					•[1]		•[1]
SMF Files	•(ext)	•	•(ext)	•[2]	•	•	•	•
SysEx	•	•	•		•	•		
MIDI Remote Ctrl	•[3]	•[4]	•[5]					
Keyboard Shortcuts	•	•[5]	•[5]	•[5]	•	•	•	•
EDITING FEATURES								
Notation Display	•	•(ext)	•(opt)				•(ext)	
Notation Editing	•	•(opt)	•(opt)				•(opt)	
Hybrid Display	•	•(ext)	•			•	•	•
Graphic Cntrl Ed.	•	•(ext)	•		•		•	
Event List	•	•	•	•	•[6]			
MIDI Mixer	•	•(ext)						
SysEx Librarian	•(opt)	•(opt)	•				•(opt)	
Patch Mapping	•	•(ext)			•		•	
Drum Mapping	•	•(ext)					•	
AMIGA-SPECIFIC FEATURES								
Amiga IFF Audio	•(opt)	•	•		•	•	•	•
SMUS	•(ext)		•(ext)		•		•	
ARexx	•		•					
Screen	Custom	Custom	Custom	Custom	WorkB	Custom	Custom	Custom
Vertical Res.	200/400	200	200	200	variable	200	200	200
Window Based	•				•			
Menus	•	•	•	•		•	•	•
Prog. Colors	•	•	•				•	
Copy Protected							•	
HD Install Script	•		•		•			
Min. OS version	1.3	1.3	1.3[7]	1.3	1.3	1.3	1.3	1.3

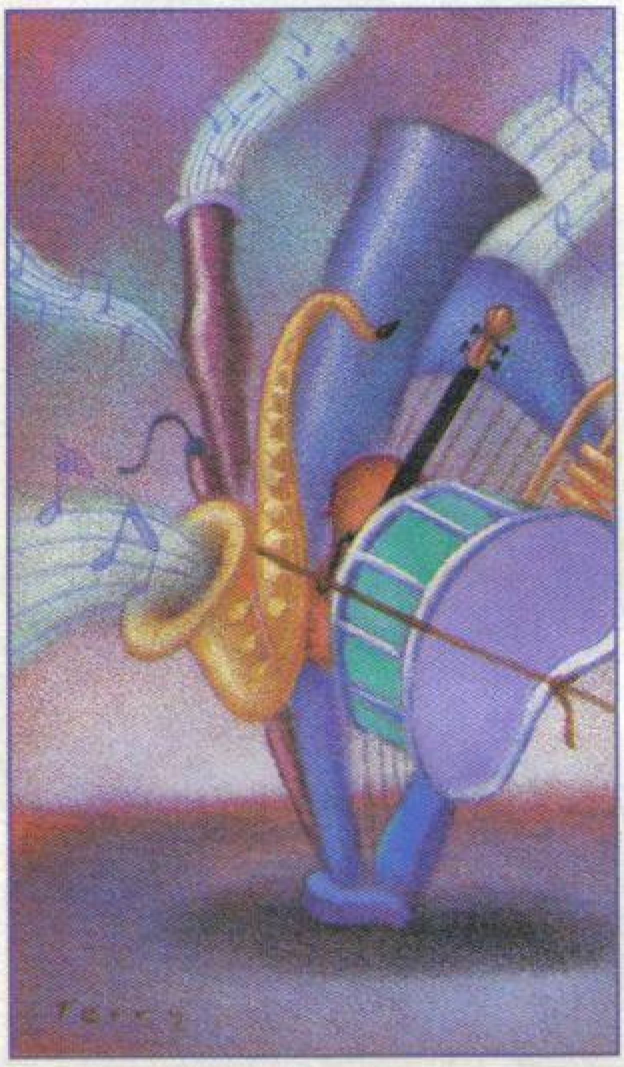
LEGEND

L = Linear-based
P = Pattern-based
S = Sequence (non linear)-based
ext = external standard feature (e.g., MPE module [Dr. T's], Accessory [Blue Ribbon])
opt = optional feature (extra cost)
dynamic = as many as memory permits

[1] = via mouse clicks
[2] = export only
[3] = moderate
[4] = fixed assigments
[5] = extensive
[6] = with some graphic features, such as note symbols
[7] = some included utilities (e.g., SMF, SMUS converters) require 2.0

leaving you at the mercy of their autolocators and cut-and-paste functions to arrange your song in linear fashion.

Fix It in the Mix



Cutting and pasting music? That's exactly one of the great advantages of MIDI sequencing over multitrack tape—allowing you to easily fix an offending note or tighten up a sloppy phrase, while leaving intact an otherwise excellent performance. B&P offers the widest variety of editors and is the only program to offer integrated staff editing of standard music notation. Music-X and KCS interface, respectively, with Notator-X (bundled with Music-X 2.0) and Dr. T's' optional Copyist ($149)—both of which are dedicated notation programs—to offer you the same functionality via integrated transfer routines.

Traditional music notation, however, is actually quite limited when it comes to MIDI data, because there is no provision for displaying precise note attack times, durations, and velocity—let alone nonlinear pitch bends. Unlike music notation, which leaves the performer considerable freedom for interpretation, MIDI data is the exact record of such a performance. For these reasons, computer-literate musicians have long favored alternative hybrid systems. They are called hybrid because, like standard music notation, they usually plot data in a two-dimensional time-and-frequency grid, while also conveying additional information, such as note length and velocity. The frequency axis normally shows a piano keyboard rotated 90 degrees. Notes are drawn as bars along the time axis, where the bar's vertical position corresponds to a key on the graphic keyboard and its length coincides with the note's duration. Most Amiga sequencers have such an editor.

I like the "Diamond Drag" editor in Sequencer One Plus the best, because it allows you to quickly edit any note attribute. I also like Music-X's graphic editor, which makes excellent use of color as a visual cue. And while none of its individual editors are outstanding, B&P gives new meaning to the concept that "the whole is greater than the sum of its parts" by integrating every common type of display into a single window! Having standard musical-notation time aligned with controller information, piano rolls, and so forth more than makes up for the fact that it can be a bit cumbersome to maneuver around.

However, when you want to get down to nuts and bolts and edit the actual numerical MIDI data, you use an event-list editor. Music-X and KCS have similar displays, neither of which is geared toward fast data entry with the mouse. Sequel's editor is more mouse-friendly, and it has a little twist: It displays note lengths as graphic note symbols, hence its name, Notationlist. But I prefer B&P's no-frills event editor for simple tweaks, because it allows you simply to click on a value and drag the mouse up or down to change it.

Abundant Processing Power

Besides editing events by hand, there is another way of tweaking data: automated processing. This opens up another dimension in event editing. Applying recurring processes, ranging from simple additions to complex mathematical formulas, is a piece of cake for the Amiga, even in real time.

Basic processing functions such as quantize and transpose are supported by all sequencers. But when it comes to more advanced features, B&P and KCS lead the pack. The most unique aspect of B&P is its graphic pipeline architecture with its ever-expanding collection of tools that can process in real time or permanently edit ("toolize") data. Blue Ribbon offers several add-on products, each providing tools in addition to those that come with B&P. You can purchase the Creativity Kit ($69.95), Internal Sounds Kit ($59.95), Performance Tools Kit ($69.95), Power Tools Kit ($69.95), and Pro Studio Kit ($69.95). Quite a few B&P tools were written by third-party programmers, which is not surprising when you consider that Rules For Tools ($59.95) gives you all the information you need to write your own tools in C language.

KCS may lack the visual flash of B&P, but it's chock-full of power features. KCS's claim to fame lies in its Master Editor and Programmable Variations Generator, which are still unmatched in the industry for their processing capabilities (and are complex enough to deserve a separate article). In a nutshell, you can create, tweak, and delete data in myriad ways based on a complex set of variables that you define. One of my favorite KCS tricks is to create a list of drum-fill sequences from which the program randomly picks one at predetermined times from within another (control) sequence. This is a great way to lend a song some of the spontaneity of a live performance while maintaining complete control over the phrasing repertoire.

Music-X's processing capabilities are no match for those of KCS or B&P, but the program's ARexx features do open up a welcome back door. You can write your own scripts to add, delete, and modify events. Music-X even allows you to build entire user-interface requesters on its screen to get user input and to display variables. I love this feature! (While you can't use ARexx to do the latter with Bars&Pipes, the program does implement the "ARexx Command Set For MIDI Sequencers" that I proposed in the Jul./Aug. '90 issue of *Amiga Mail*.) One of the unique aspects of the Amiga is ARexx, and with it you can already do things with B&P and Music-X that are impossible on other platforms.

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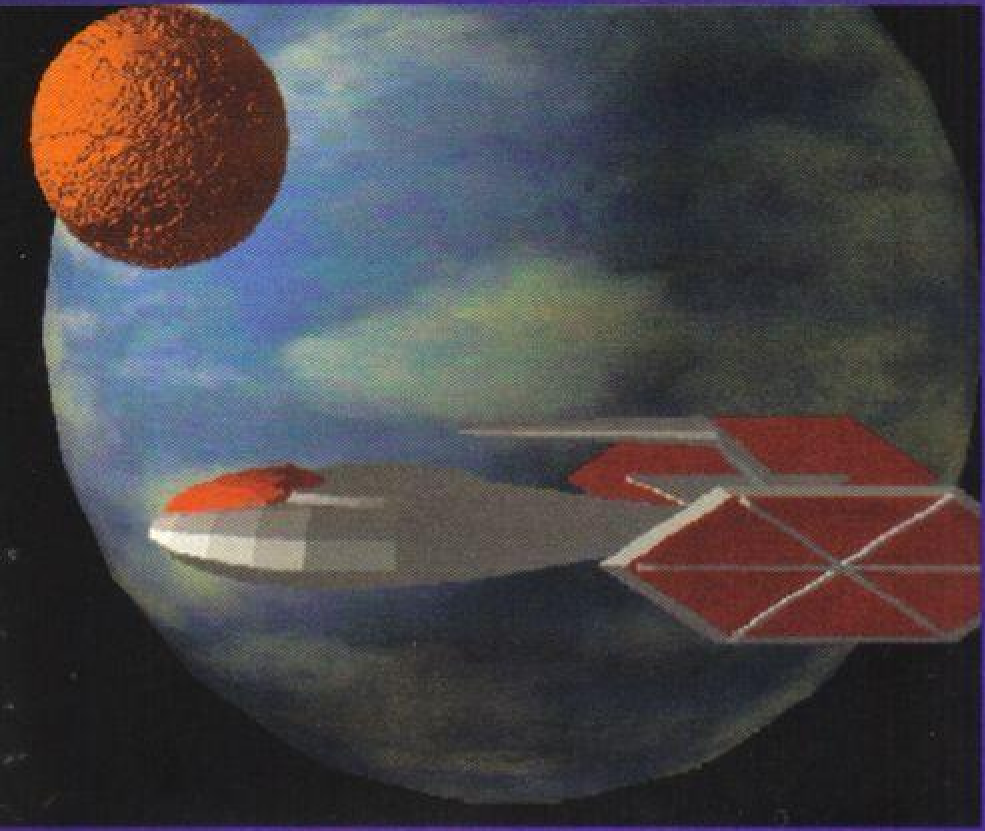

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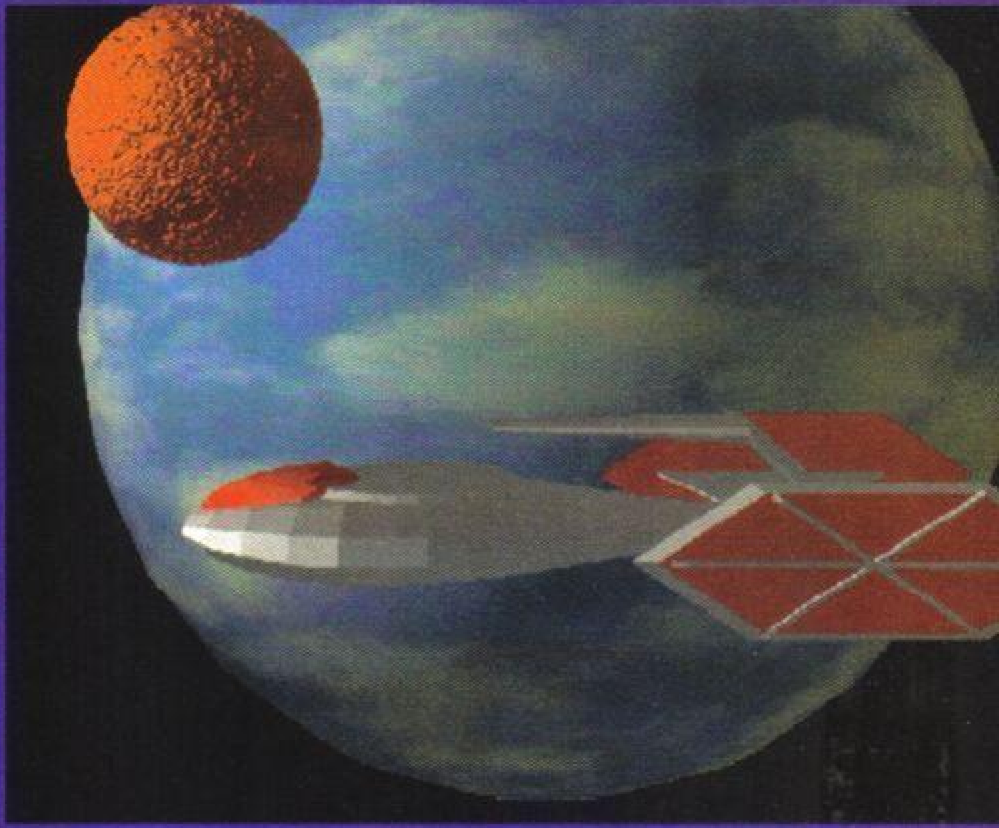

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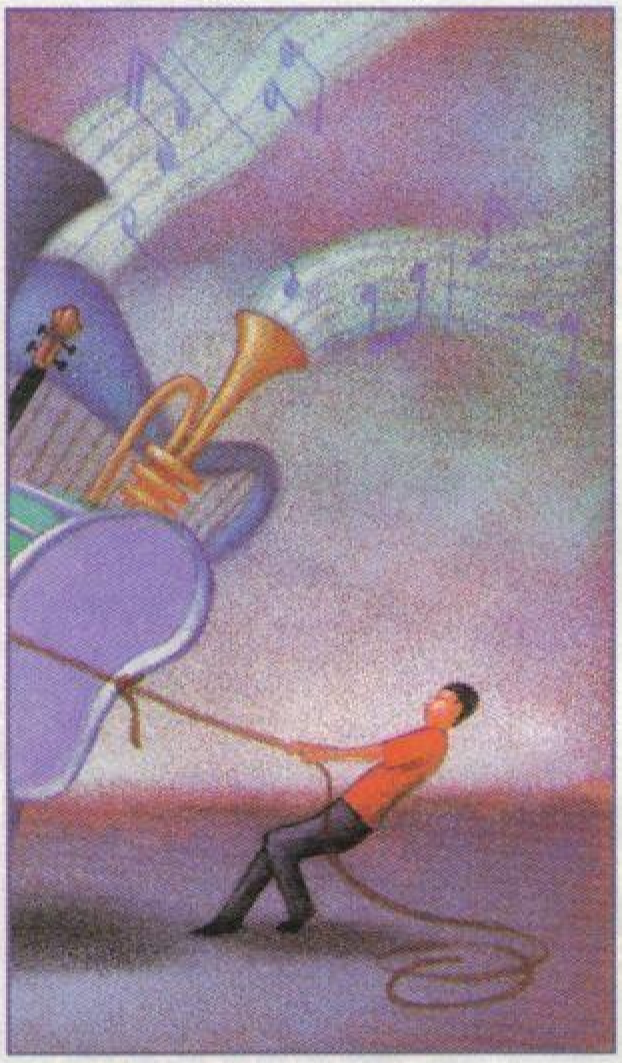
attached to doing all your work on your sequencer. But you still need a multitrack tape deck to lay down lead vocals, electric guitar, or a burning saxophone solo. You also need a way to slave (synchronize) the Amiga to your multitrack (master). This is accomplished by a device that converts some form of tape-sync code (FSK or SMPTE) to MIDI clocks or MTC (MIDI Time Code), which can then be read by the Amiga to follow the tape.

Blue Ribbon offers Sync Pro ($199), which will work with any sequencer that supports MIDI clocks or MTC. B&P also supports Dr. T's' now-discontinued Phantom SMPTE interface, which was designed to work exclusively with KCS. Music-X can also lock directly to SMPTE if you can get hold of the TCRG (Time Code Reader and Generator) from the now-defunct MicroIllusions company.



I Need More Voices!

Suppose you write only instrumental music and have no need for a multitrack and sync device. Well, if that is the case, there is yet another hardware add-on you may consider. As MIDI has come of age, there are times when it's clear that having only 16 MIDI channels simply does not cut it. Most contemporary MIDI tone generators are multitimbral, which means that they can respond to more than one and often to all 16 channels at once. Many musicians literally own entire arsenals of these "orchestras in a box."

Both B&P and Music-X address this bottleneck by supporting extra MIDI ports in addition to the Amiga's internal serial port. Add three ports to B&P via Blue Ribbon's Triple Play Plus ($179), one more (three with an upgrade) via the same company's One-Stop Music Shop ($649), and two more with Serial Solution (Checkpoint Technology, but it is no longer available). Music-X also supports the latter two products, as well as Passport Design's now-discontinued MIDI Transport.

Another option for getting more voices is Blue Ribbon's One-Stop Music Shop, a general MIDI-compatible EMU Proteus tone generator with integrated MIDI interface on one card. (This requires an Amiga with Zorro-II expansion card slots—an A2000, A3000, or A4000.) Naturally, the card's sounds can be triggered directly by all Blue Ribbon products, but you can also use it like any MIDI tone generator by connecting your MIDI interface's out port to the One-Stop's MIDI in.

Escape Hatch Unlocked

More playback devices lead to more sounds, which are begging to be edited and, as their numbers grow, to be managed. This leads us to system-exclusive messages (sysex), MIDI's escape hatch to support device-specific information. Most of the sequencers reviewed here support real-time record and playback of small sysex messages. But when it comes to managing larger messages, such as preset data dumps, you'll need a universal librarian.

Blue Ribbon's PatchMeister ($99) does just that and smoothly integrates with B&P. Dr. T's' X-OR ($325) covers the same ground and also provides dozens of editors. This excellent universal editor/librarian runs stand-alone or integrated with KCS. When they are run concurrently, you can even record your edits right into KCS. This round, however, goes to Music-X for simply incorporating a librarian, complete with protocol editor, right into the main program along with editor modules for D-50, TX-81Z, and DX-100 synthesizers.

Jack of All Trades

Of course, no discussion about additional voices would be complete without mentioning the Amiga itself. While its four 8-bit audio channels are no match for even the least expensive MIDI tone generators in polyphony or sound quality, they do offer free sampling capabilities. Optional sample libraries are readily available, often with surprisingly useful samples converted from professional 16-bit MIDI samplers. From its obvious use as a metronome to an electric bass—my personal favorite, for the Amiga has a great bottom end—this feature is supported by all the sequencers in this review except Texture. While the Amiga has always been well supported with excellent 8-bit products, the last few years have seen a proliferation of professional-quality 12- and 16-bit samplers and editors.

Finale

As you can see, sequencing options on the Amiga are plentiful. Linear sequencers, in particular, are very well represented. On the high end, Blue Ribbon's integrated product line covers all the bases. On the other end of the price spectrum, Sequencer One offers great value for the money. For a nonlinear sequencer, I recommend KCS Level II, with the reservations outlined earlier. The two available pattern-oriented sequencers, Sequel and Texture, are okay for entry- to medium-level sequencing needs.

But needs and tastes vary, and you're free to take your pick from the "Big League Champs" (Bars&Pipes Pro, KCS, and Music-X) or the "Little League Players" (Sequencer One/One Plus, Texture, Sequel, and Tiger Cub) to get into the ball game. The good news is that no matter what your budget is or what architecture you prefer, there is a MIDI sequencer available for your Amiga today! ■

*Darius Taghavy is a former Commodore and Ensoniq software engineer, a multi-instrumentalist songwriter/performer with 17 years' experience, and a free-lance contributor to many computer and music magazines. Write to him c/o **AmigaWorld**, Editorial Dept., PO Box 802, 80 Elm St., Peterborough, NH 03458-0802.*

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Video in Focus

PRACTICAL ADVICE FOR AMIGA VIDEO PRODUCERS

By Paulo de Andrade

Breaking In To the Industry

In this time of vanishing job security, many people want to be, or are forced into being, in business for themselves. Of the many businesses you can open, video production is one of the least expensive, thanks to the desktop revolution. Less than $10,000 gets you the basic equipment you need for acquisition and post-production. (You already own a very important component—an Amiga.) While $10,000 will not put you in direct competition with the fancy broadcast-quality studio downtown, it will get you started making money. More than that may enable you to steal business from the big guys.

Video production is also promising for those who would rather work for somebody else than worry about running their own business. The proposed 500 television channels will certainly open up some jobs, and independent production and post-production facilities may also need help. And many companies are starting to use video in games and multimedia applications.

GET TRAINED

The biggest mistake many people make when they open their video business is not getting proper training. The fact that your friends rave about the wedding video you did for uncle Bob does not mean you are ready to charge for your services. You must learn technique, aesthetics, the proper use of equipment, scriptwriting, and more. But most important, you must learn the "language" of video. I am not talking about jargon, but rather the visual language that allows you to tell a story using pictures. If you want to be successful in this industry, you must use that language to portray emotion—to make people cry while watching a drama, or to get them laughing even when they feel lousy.

Many people do not consider training because there really are no education requirements to get started in this industry. Most people in television have learned as they worked their way up. Not long ago, very few places offered education in television and film, let alone computer graphics. But today good instruction is easy to find and should be skipped only in extreme cases. Those in business for themselves should definitely seek it.

What you need is a strong foundation on which you can develop your career. The best place to find this is at film and television production schools such as Columbia College in Hollywood. These facilities often offer degrees and provide the equipment necessary for all kinds of projects: multiple-camera television production studios, film sound stages, film and video post-production equipment, audio gear, and all types of cameras. Most of the teachers are industry pros who love what they do and enjoy sharing their knowledge. You learn the necessary theory, but spend most of your time practicing. You can try all aspects of production, from camera work to lighting, and from video engineering to film design. The knowledge you acquire at such a school takes years to learn on the job. (A major university can also give you a great education, but it will be far more expensive.)

The next best bet for training is a good community college. As the price of video-production equipment drops, more community colleges are becoming equipped with very nice gear. Most of these have well-set production studios and several post-production suites to provide the students with good hands-on experience. In the greater Seattle area, Bellevue Community College has both a well-equipped studio and a cable-television channel.

Those who don't have time for these options can seek other alternatives. Most major universities offer extension courses in television and film production. In just a few weeks you can complete one or more courses on the basics. Community colleges also offer production courses in their adult-education programs.

If you cannot pursue any of these paths, at least take a public access-channel production course at a cable-television company. It will not likely be much, but it will give you some exposure to production techniques.

GETTING IN

A good education does not guarantee you a great first job; it's still true that experience weighs more than education. Lest you think this is a good reason to skip the training, bear in mind that you will move ahead faster if you know what you're doing.

Working for a television station, network, or production company may give you the best experience; it's no wonder big names such as Woody Allen and Mel Brooks started there. TV work forces you to meet tight schedules while producing superior technical and production quality. Seasoned TV pros work very fast and achieve results that take others much longer.

If there is a TV station in your area, try to get hired—no matter what the job. Mail-room jobs are typical entry-level positions. While such work has nothing to do with production, it does enable you to get acquainted with virtually every department at the station. It also gives you the chance to make friends in departments you might want to join, and to discuss your experience and goals with peers and superiors. Television jobs are seldom advertised outside the station; most are made available to insiders. You've probably never seen an ad in the paper for a TV news videotape editor; the person who got that job started in the mail room and progressed to editor's assistant.

If you want to make video production your career, take it seriously. Fancy equipment is not a panacea. But with proper education and experience, you can succeed in this exciting field. ■

Paulo de Andrade is president of Digital Reality, an Amiga-based broadcast-video and 3-D animation company in Seattle. Write to him c/o ***AmigaWorld****, Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

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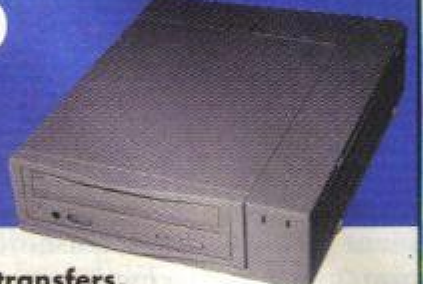

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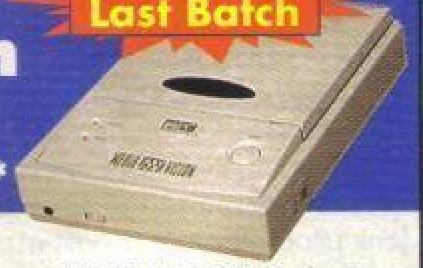

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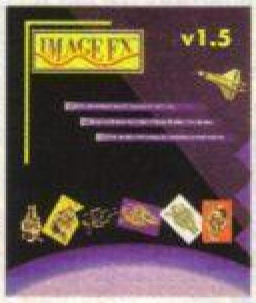

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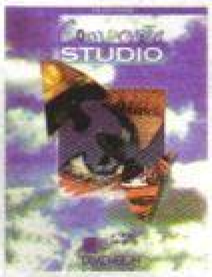

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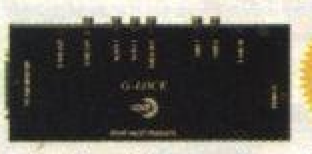

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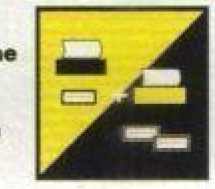

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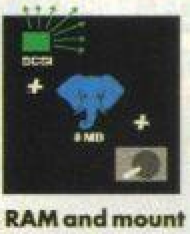

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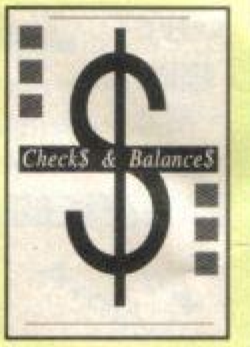

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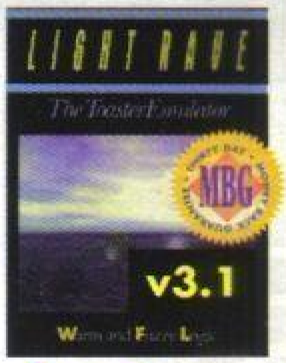

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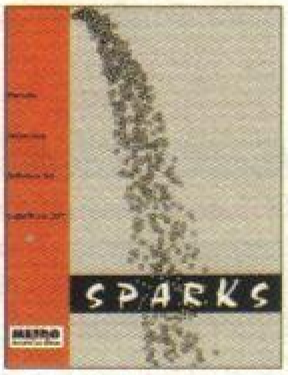

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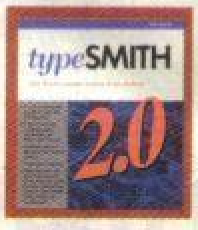

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ACCENT
ON
GRAPHICS

Fractal Imagery . . . and Beyond!

68

◆

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

◆

By Joel Hagen

THE FRACTAL EXPLORATIONS of today's computer artists are the legacy of a mathematical monster hunt a century old. Strange forms in which an infinite line could enclose a finite space were geometric monstrosities whose existence unsettled mathematicians at the dawn of this century. A profound rethinking of the orderly world views of Euclid and Newton occurred over the ensuing decades. It is probably no coincidence that this was accompanied by turmoil in the arts, as the aesthetics of structure and harmony were challenged by painters, poets, architects and musicians.

Innovators embraced the nature of disorder, and their efforts yielded some of the most powerful movements in the evolution of the arts and sciences. Fractal mathematics is an offspring of that exploration, and it has attracted the attention of artists and scientists alike.

Fractal software has been an interesting—if not mainstream—development on the Amiga for a number of years now.* This column will suggest some lines of exploration you might try with any FractalProgram. I used FractalPro (MegageM), a solid, full-featured assembly-language program with extensive ARexx support—and ideal for production work and animation.

One of the key concepts of fractal mathematics is that dimensions are not identified by the simple integers of Euclid. For example, a line scribbled densely on a sheet of paper is not one-dimensional, as classical geometry would define it. That line may actually fill much of a two-dimensional plane.

In his pioneering work on fractal mathematics, Benoit Mandelbrot suggests that it is more accurate and useful to define the dimension of such a line as a fraction greater than one and less than two (hence "fractal," from the same root as "fraction"). This is far more than a philosophical observation, for fractal mathematics provides a means to define precisely the dimension of that line as, for example, 1.1815. It thus becomes possible to meaningfully measure and compare the relative irregularity of structures. Researchers are using this capability in a wide range of disciplines, from economics to geography to psychology.

PRACTICAL FRACTALS

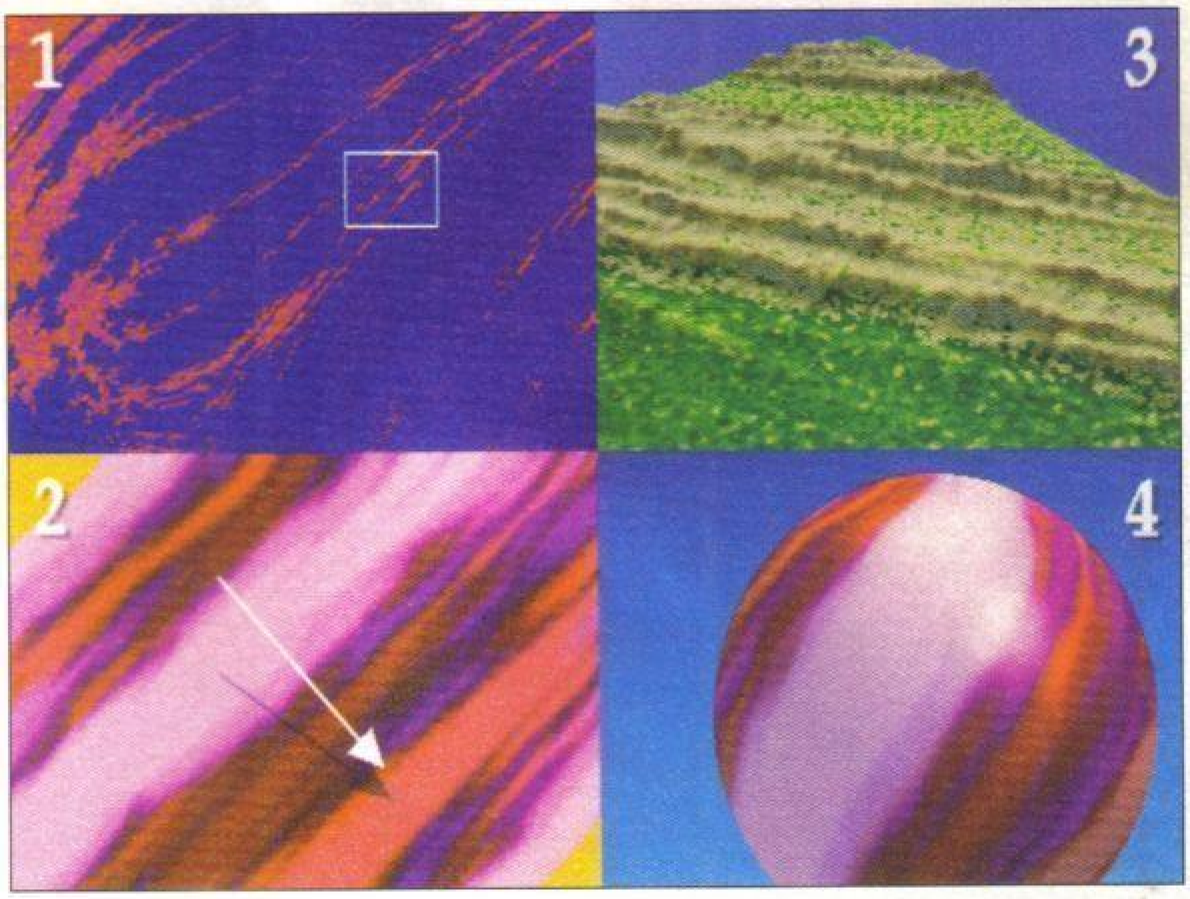
The methods of fractal mathematics allow us to generate forms as well as to analyze them. It is this aspect of the discipline that is most familiar to computer artists. The computer can create images by assigning values to points within regions of sets of numbers. The nature of these sets is such that one can look deeper and deeper into any region and see new structure revealed. At an infinity of scales, new forms exist, yet share similarities. In fractal software, this exploration is typically done by outlining a region in a generated image and then magnifying that region to reveal new detail. You can approach such exploration out of sheer curiosity, but you can also experiment with more specific artistic goals in mind.

In the accompanying illustration, image #1 was generated using FractalPro's Mandelbrot SineM button. Zooming in on the area outlined in white produced the basis for image #2. I was looking for parallel lines and shapes with an organic feel, so my choices were not accidental. It took only one level of magnification to find a suitable region. Working at FractalPro's 24-bit level, I applied green shading before saving.

I further changed the palette of that image with ADPro's (Elastic Reality) balancing controls and histogram equalization as the image moved through a series of experiments. By this time, I was thinking of it as a potential texture for mapping to a 3-D object. With that in mind, I applied a ten-pixel motion blur in ImageFX (GVP) along the direction of the banding to enhance its soft linearity. The result is what you see in image #2.

Editor's note: Look for an upcoming* ***AW* *article by Mark Brown on fractal mathematics and image-creation, with a survey of fractal software for the Amiga.*

You don't have to be a mathematician to learn how fractal software, with the right tools and techniques, can lead you to new dimensions in image-making—and more!



Part of a Mandelbrot set (FractalPro) in image #1 is magnified and processed (ADPro and ImageFX) in image #2, then wrapped to a sphere (Caligari) in image #4. The DEM file from FractalPro associated with image #2 is generated as a landscape (VistaPro) in image #3.

That 24-bit IFF image was loaded into Caligari's (Caligari Corp.) Texture Maker in the Attributes area of the BRender interface, where it was converted into a Caligari format texture. I then placed it on a sphere, using the Default mapping button and Phong shading with shininess raised to let two local lights create soft surface reflections. Careful rotation of the point of view concealed the seam where texture edges met. The result is image #4. Similar fractal images could have good potential as stone surfaces or even as banded-gas giant planets—depending on what surface attributes you choose to apply in a 3-D program.

FRACTAL LANDSCAPE GENERATION

My original reason for looking for parallel structures in a fractal image had nothing to do with 3-D textures, but it is easy to become sidetracked. I had set out hoping to discover a source of unique terrain for landscape generation. As beautiful and convincing as are the random landscapes produced by VistaPro (Virtual Reality Labs) and Scenery Animator (Natural Graphics), they lack diversity. They are typically an undulation of peaks and depressions that could be roughly characterized as conical. Visually, they are good approximations of much of the mountainous terrain of the Rockies and the Sierras.

However, I have always been intrigued by the look of the Appalachian. The geologic processes that folded these parallel wrinkles on the passive eastern continental margin are different from the processes that raised the Sierras from the colliding American and Pacific crustal plates.

FractalPro has options that can automatically save any fractal image as a DEM file as well as an IFF image. These DEMs can be loaded directly into VistaPro or Scenery Animator and generated as landscapes. The DEM file for image #2 (before all my processing) produced the landscape in image #3 when rendered in VistaPro from the vantage point shown by the arrow. Given the self-similar nature of fractal images cascading recursively into infinity, I have probably found a source for all the Appalachian ridges I will ever want to render.

BEYOND PRETTY PICTURES.

If you haven't explored fractals, you are missing something fascinating that goes far beyond colorful pictures. You may be missing an opportunity to shift your perception of nature and challenge your concept of dimension and reality. Fractal mathematics is not an ultimate truth about the structure of nature. Rather, it is a tool that has given rise to other tools in a quest for truth. Fractals, chaos, strange attractors, and the like all provide science with some basic mechanisms to accept a subjective universe and examine it meaningfully with subjective measurement.

This might be looked upon as part of the "Easting" of the West. That piece of paper with the scribbled line can be viewed from such a distance that it has zero dimension. Viewed closer, it might appear a uniform two-dimensional gray plane. Closer still, the apparently one-dimensional line is visible and invites measurement, but at what scale? The line is really particles of graphite. Measure around and over each particle? Each molecule? What is the reality of that line? What is its real length, and what dimension does it occupy?

These are not idle questions, neither to the Western astrophysicist nor to the Eastern monk nor to the African artist—their minds are all focused on the same universe. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.

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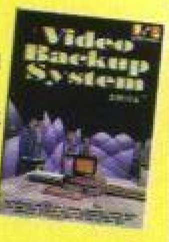

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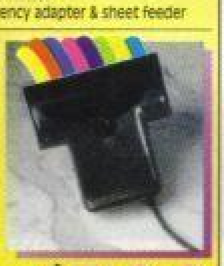

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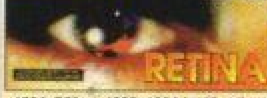

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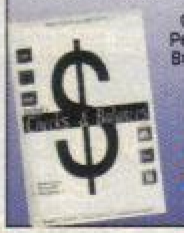

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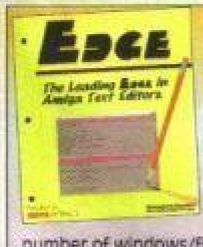

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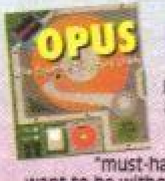

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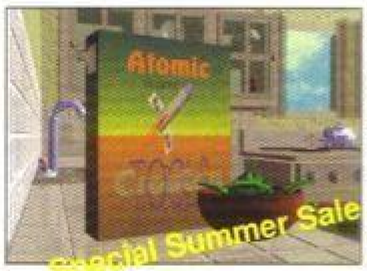

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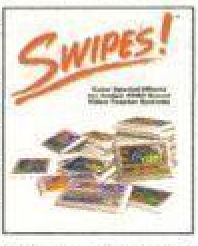

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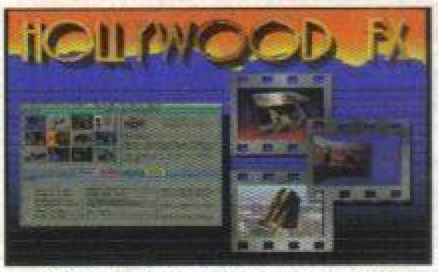

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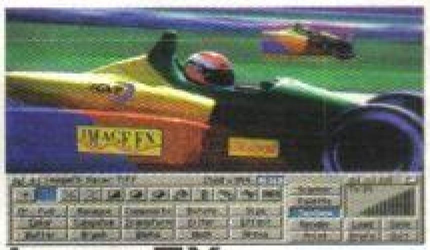

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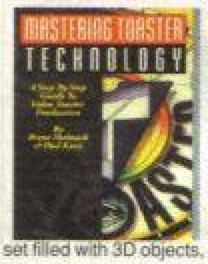

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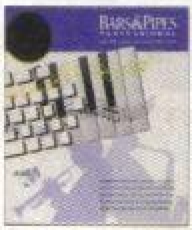

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FD97: Bonanza - Battlesheep--a battleship game, Tanx'n'Stuf-seek and destroy in a cool 4-way scrolling world, MileStones--play Mille Bournes against the Amiga and Galactoid--a galaxian type game.
FD96: Tetris Duel AGA - The next generation Tetris...2 players can play head to head and sabotage each other! Great graphics for AGA machines! Req's A1200 or A4000.
FD95: Deluxe Galaga - You should be paying $40 bucks for this one! All kinds of power-ups and silky smooth motion. Req's 1MB Chip RAM (Fat Agnus) for PAL Mode.
DD93: Magic User Interface Greatly speeds development. Auto Screen/Window/Font sensitive interfaces and *much* more!
DD92: Developer Contains the official Commodore developers kits for the AmigaGuide and Commodore Install Utilites...a must have for all serious developers.

FUN DISKS

FD7: Pacman - This disk contains several pacman type games including; PacMan87, MazeMan and Zonix.
FD11: Las Vegas and Card Games - Las Vegas Craps - The best Las Vegas Craps simulation every written for any computer. Contains extensive HELP features. Also Thirty-One,VideoPoker and more.
FD12AB: Star Trek, The Game - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).

DD83: IBM - Not one, but *TWO* IBM emulators that will allow the running of MS-DOS software with Amiga programs!!! Comes complete with programs to turn your Amiga floppy drives into 720K IBM compatible drives. Also, check out our PC-Task emulator on our DevWare Video page!

FD13: Board Games - contains Monopoly, Dominoes, Paranoids, and others.
FD17: Educational Games - This disk includes several games for youngsters including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce; A game that simulates combat between two or more giant robots. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
FD33: Arcade Games - Ffreddy a Mario Brothers type of game, Gerbils a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and Wetroids a wonderful version of asteroids with a hilarious twist.
FD38: Games - Cribbage Master - A great cribbage game and tutor. Spades - a well done card came. ChineseCheckers - A computer version of this classic. Puzz - a slide piece puzzle game and construction set.

WB105AB: Workbench 2+ Extras #2

This set contains the programs that should have been included with WB2+. These powerful utilities take full advantage of the many new capabilities that are available in Workbench 2+. Includes: Tool Manager - a wonderful utility to add programs to your TOOL menu, Virus Protection - Degrader, Icon - Enhances Workbench's "Show All" to display over 40 distinct icons for different types of files, Bitmap Font Editor, Screen Blankers - ala fractals and spliners and swarming bees! Requester Enhancers and CPUBlit. Two disk set, counts as two.

FD39A&B: Star Trek, The New Generation - This is a completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Excellent!!! Counts as two disks. Requires 512k
FD50: Submarine Game - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.

THE AMIGAWORLD "BEST-OF" SET

FD85ABCD: AmigaWorld's Best - These four disks contain the *hottest* p/d games! Includes Mother Lode, Moria, Minefield, Poing, Intruder Alert, Deluxe PacMan, Rocky and Super Artillery (see Dec. '92 AmigaWorld). Four disk set, counts as three.

FD57: Arcade Games - Includes 2 truly commercial quality games. MegaBall, an Arkanoid-ish game, features 5 musical scores and addicting gameplay. Gravity Attack is a psychadellic trip through several different worlds—each different.
FD59: Game Potpourri - Xenon III is an almost exact clone of the commercial game of the same name...a great shootemup. Crossword will take lists of words & automatically generate word-search puzzles for any Epson compatible printer.
FD60: Games - In Nebula, race over a 3d world to destroy enemy installations. Interferon; a *great* Dr. Mario clone. Enigma; is it a game or puzzle?
FD61: Games - Solitaire; great graphics, plays two versions, Klide; an interesting piece of eye candy. Extreme Violence; 2 player kill or be killed game. YATC; A Tetris clone with Artifical Intelligence. Genesis; create realistic 3d fractal worlds.
FD62: PomPom Gunner. An extremely smooth and well done World War II gunner simulation. Req. 1 megabyte of memory.
FD67: Arcade - Includes Llamatron a well-done "Robotron" clone. Hate is a "terrific" Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling...a 10!
FD69: MindGames - Had enough of shoot-em up games? Relax and let these 21 games exercise your mind instead of your wrist.
FD73: Arcade Series - Intruder Alert! is a MULTI-level "Berserk" clone. Features smooth gameplay, great graphics & digitized sound f/x.
FD74: Arcade Series - RingWar is an "Outer Limits" clone with vectorized graphics. MotherLode is a "Lode Runner" clone with 50 levels! In BlitzTanks, they're coming at you from all directions!! Call in air strikes and use your heavy artillery to survive!
FD75: Arcade Series - Descender is a clone of the classic arcade game "Tempest"; complete with vectorized graphics. Tanx is the classic battle of trajectories and inertia between two tanks—incredibly well done! Search is a maze game unlike any other—included is a level editor too. (Tanx requires 1 meg chip memory-Fat Agnus)
FD77: Arcade Series - Galaga'92 is a clone of the arcade game with several gameplay enhancements—with smoooth, sharp graphics, it's better than the original! Pharoahs Curse is a clone of the original C64 classic. Diplomacy is a beautifuly computerized version of the Avalon Hill board game—conquer or be conquered!
FD81: SuperGames - Some of the best games--Donkey Kong is better than the original *with an extra level*! Frantic Freddie and TrailBlazer are both fast-paced arcade games. Mad Bomber is the classic game of "Kaboom" redone with an Amiga flare. All of these games are excellent!
FD82: Intrepid - In the Arctic ice, you control a tank on a mission to rescue hostages in this superbly crafted Amiga original.
FD84: Games! Deluxe PacMan is better than the original--20+ mazes, special "power-ups" with *oustanding* graphics. ThinkAmania is the classic game of concentration—with *beautifully* drawn HiRes images.
FD86: UChess: The strongest playing Chess program available for the Amiga period. Req. 68030+, Workbench2+, 4MB RAM or more. Supports AGA (req. 8MB!)
FD87: OXYD- A commercial quality game--similar to Marble Madness in nany ways, but allows two computers to link & play together...see how many of the 200 landscapes you can complete without having to get the hint book!
FD88: AmyBoulderdash - a clone of the original classic, extremely well done complete with level editor, 2 complete sets of levels and a level editor. Requires Workbench 2+.
FD89: Kastle Kumquat - A thoroughly entertaining and challenging maze/adventure game. Great soundtrack and graphics. Req's 1MB Chip RAM (for PAL mode).
FD90: Conquest & Dominion - Conquer the known world and maintain dominion over it--a microcosm of economic survival.
FD91: Popeye - A clone of the original C-64 classic--Amiga style with enhanced graphics. Req 1MB chip RAM for PAL.
FD92: Blast'em - contains Scorched Tanks--a tank battle with futuristic weapons/defenses & "great" graphics. Galactoid is a Galaxian/Space Invaders game completely Amiga-tized.
FD93: MegaBall AGA - This is the one you've been waiting for! Updated to knock your socks off! THE best p/d game for the Amiga. Req.'s WB2+ & 1MB RAM. Show off that AGA!
FD94: Scorched Tanks - completely updated and compatible with AGA/3.0! 60 different ways to blow each other away! An outstanding game of angles, trajectories & unique arsenals!

WORKBENCH DISKS

WB4:Telecommunication - This disk contains several excellent pd communication programs: Access 1.42, Comm 1.34 & Handshake 2.12a. See also WB102 & WB115.
WB5: Fonts #1- 35 bitmap fonts. Also included are five PageStream fonts and ShowFont - a font display program.
WB6: Fonts #2 - ShowFont allows you to quickly and painlessly view all 256 characters in a typical font. Includes large AmigaDos system fonts (many up to 56pts).
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
WB9: Icons - Truly a multitude of various types and kinds. Also includes IconMiester, IconLab, and others great utilities to help generate icons.
WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A must have!
WB13AB: Printer Drivers and Generator - over 70 different drivers (including HP LaserJet 3 & 4!), also includes a printer-driver generator. Two disk set counts as two.
WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).
WB18: Word/Text Processors - This disk contains the best editors. Includes,TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features,TexED(v2.8) an enhanced Emacs type editor, and a spell checker.
WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.
WB23: Graphics and Plotting - Plot, a 3-D mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map IFF image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere.
WB25:Educational - On this disk are two programs that can generate maps of differing types. World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
WB27: Nagel - 26 Patrick Nagel pictures of beautiful women.

SPECIAL PRODUCT • NEW RELEASE!!

QT3: THE A64 PACKAGE *VERSION 3* - A very complete Commodore 64 emulator. Supports any CPU and is fully compatible with WB1.3 & 2.0 and now 3.0! This version includes a special adaptor that will allow you to connect your 64's 1541 disk drive to your parallel port of your Amiga for total emulation. All-new transfer software! Special price $59.95 -with hardware.

WB33:Circuit Board Design - several terrific routines for the electronic enthusiast. Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.
WB35: 3D Graphics - This disk contains 3Fonts - Full vector font set for use with 3d programs, FontMaker - make 3d fonts from any system font, Make3DShape - create 3d shapes from any image, DumpIoIFF - create 3d animations preserves pallet. World3d - a demo of a front end for use with DKBRender.
WB36: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbench, and RayShade - a very good raytracing program, create your own beautiful 3d graphic models with this one!
WB37: Educational - Educational games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15
WB43: Business - This disk contains AnalytiCalc - probably the most powerful spreadsheet program on the Amiga. A full featured spreadsheet with many features expected in a commercial package. Req. 1.2 MB
WB46: Clip Art - HighRes clip art with the following motifs - embellishments (borders, dodads ....), people, & transportation.
WB47: Clip Art - Hires clip art. Motifs - hair, drafting, summer, animals and macfood.
WB48: Clip Art - Hires clip art. Motifs - Holidays, music, medical, and misc.
WB53: Graphics - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings..., and surreal images. C-Light is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars. Also, sMovie - a full featured video text titler similar to ProVideo, Broadcast Titler. Great video scrolling, wipes, special effects, and more..
WB54: Printing - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio -a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and more.
WB55: Application - XCopyIII - a full featured disk copier, make backups of copy protected disks. RoadRoute - find the quickest route from one city to another, highway description included. Diary - a diary program like "Dougy Houser M.D". Cal - a calendar program. Magman - a database tailored for articles and publications.
WB57: Animation - This disk has several "Demo" animations, including, Blitter, Lolly, Sun5, vertigo, vortex, and xenomorph.
WB62: Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.
WB63: Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, and forced disk validation of corrupt disks.
WB66: Icons #2 Lot's of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.
WB69: Music - 90 minutes of classical and modern electronic music for you Amiga.
WB75: Music - over 100 instruments files (.inst) and sample sound files (.ss)
WB79: Home & Business Accounting - Includes Ckbacct - a checkbook balancer, LCDCalc - this well done calculator has a very large display and operates from the keyboard or mouse, Mileage master - monitor your automobile mileage with this mileage log, Grammar - a grammar checker, and Worldtime - find out what time it is in up to 50 global cities.

WB119ABCDE: Font Set - This collection contains over 100 typefaces for use with Professional Page PageSetter 3+ or PageStream 2.1+. These fonts will output to any laser printer or dot-matrix printer with no jaggies thanks to outline fonts. Very eye-popping. 5 disk set, counts as 4.

WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the ease of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes, TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home accounting in a program. Highly recommended.
WB82: Animations - Four full length, well done "movie" style animations. Including, Coyote, JugglerII, GhostPool, & Mechanix. 2 disks, counts as 1.
WB93: Workbench 1.3 Extras #2 Contains the utilities that Commodore should have shipped with the Amiga; VirusX4.0, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), MachIII (screen blanker, hotkey, mouse accel., macro, clock utility), GOMF (a gurubuster)and PrintStudio.
WB95: Checkbook Accountant 2.1 - Definitely commercial grade; we've seen many checkbook programs and this is the best. Full budgeting, transaction recording & report generation.
WB96: Dupers - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.
WB102: Telecommunications - Contains the programs NComm 2.0 and VT100-29B. Zmodem protocols, XPR protocol support, full VT100 emulation. NComm's script language is so powerful it can create a full-featured BBS system.
WB106: Home Manager - This is a great all-in-one address book with an autodialer/notepad/to-do list/appointment scheduler/home inventory database and phone number dialer.
WB109: VerseWise - Display, search and print The New Testament.
WB113: Sid II - Why pay 40 bucks for a directory utility, when this one will do it all plus much more! A truly professional-caliber program. Sid 1 was our best, now *completely* rewritten, Sid 2 will astound you.
WB114: Fonts #4 - Contains 36 bitmap system fonts.
WB116: Databases - This is what you've been waiting for! Contains 5 uniquely specialized database programs for tracking: Videotapes, CD's, Magazine Articles, Comic Books and Trading Cards!
WB120: Grinder - a complete graphics conversion package that supports GIF's, JPeg, Neochrome, Degas, PCX, Targa, TIFF, HAM-E and IFF format pictures. An invaluable tool for all desktop-videographers and desktop publishers.

WB118: Amiga Beginner - *You asked for it!* A complete tutorial for the beginner on using the Amiga. Starts you off at the power-switch and takes you through to the CLI/Shell and all points in between. *Bonus!* Also included are 16-color icons to replace *every* icon in your 2.0+ Workbench.

WB121: ProPage3/4 Enhancer - This disk contains over 40 "Genies" for use with ProPage 3+, including useful ones like Make Pie Chart and Resize Text to fit Box to name a few. Also includes structured & bitmap clipart for unique borders...a *must have* for all PPage 3 users.
WB122: System Optimizer - KCommodity enhances your system, gives memory meters, mouse/keyboard enhancements, online timers plus *many* others...too numerous to list! REorg will optimize hard and floppy-disks for a big speed increase. HDMem will allow you to use up to 2 megs of hard-drive space for virtual memory! (Req. 68020+ w/MMU) All programs require 2.0+
WB123AB: Flags of the World - same as WB124, but for Workbench 1.3. Req. 1MB. 2 disk set, counts as two.
WB124: Flags of the World - Two modes: click and learn or a game to test your knowledge. Great graphics--fantastic learning tool. Has current Russia & Yugoslavia republics. Req. Workbench 2.0+ & 1MB RAM.
WB127: Blankers - Over 20 different screen blankers. Most run on Workbench 1.3+...a few require 2.0+
WB128: ColorFonts - contains 12 color bitmap fonts for use with DPaint or any software that supports ColorFonts.
WB129: Super Virus Killer - From Safe Hex Int'l, who catalogs and kills Amiga Viruses worldwide--a complete virus system that knows all Amiga viruses...updated often. Req. WB 2+
WB130: ToolManger 2 - The ultimate tool manager for your Workbench. Add animated icons, sound effects and 'docks' of programs to your WB...very useful! Req. 2.0+ and hard drive.
WB131: Magic Workbench - Make your 2.04+ Workbench sizzle with style with these 8-color dithered icons. Easy auto-installs in minutes. Req.'s WB2.04+ and hard drive.
WB132: Canon Studio Version 2 - Special printer Preferences editor and drivers for BJC 600, 800 & 880, LBP, A1, A2, BJC 800, BJ 5, 10, 20, 200, 230, 300, 130
WB133: Panasonic Studio - Special printer Preferences editor and driver system for all Panasonic 9 & 24-pin printers.
WB134: 3.0/AGA Blanker - BlitzBlanker for WB3.0+ 14 different blankers to really show off your AGA machine!
WB135: 3.0 Extras #1 - 13+ utilites for WB 3.0. Several must-haves for getting the most out of your new graphics modes!
WB137: The ARexx Guide - Full AmigaGuide (inc.) document to teach you ARexx!!! Tip-filled with easy x-referencing!
WB138: 3.0 Extras #2 - Another disk chocked full of utilities to unleash the power of Workbench 3.0 and AGA!!
WB139: MIDI Performance Manager Utility to manage a MIDI synthesizer and other MIDI equipment. Requires WB 2+.

DEV DISKS

DD54: Compression - The best file compression programs and aids for the Amiga. Includes Arc, Lharc, Lhwarp, Pkax, PowerPacker a must have by all, Zip, Warp, and Zoo.
DD71AB: C Compiler - This disk contains DICE, Matthew Dillon's full featured, powerful C compiler & environment. 2 disks, counts as 2
DD79abcd: Amiga "C" Tutorial - This is the most comprehensive C language--Amiga oriented--set of tutorials available. Includes full working examples, source code and an incredible set of lessons. Included are full discussions and examples for Amiga programming. 4 disk set, counts as 3.
DD86: The Programmer - Includes GadTools and REQTools which will allow you to create your user interfaces and then the program will automatically generate "C" source code or Assembly code. Requires, and writes code for, AmigaDOS2+.
DD89: UEdit - Probably *the* most powerful text editor for the Amiga. Previously commercial, now public domain. 1 MB.
DD91: ParBench - Allows you to easily connect/network two Amigas/CDTVs together and share storage devices. Req's custom cable (docs to make cable included--easy).
DD90: Advanced Utilities - CompressDisk doubles the capacity of your hard-drive on the fly with compression!!! Also contains: disk optimizer, SCSI mount utility, Keymap editors, Enforcer, Undeleter & more. Most programs require 2.0+.

VIDEO DISKS

VO6: Modeling Objects Contains 20 vector objects in Imagine format. These are perfect for use with Imagine or other compatible product. Includes Amiga 3000, space station and many more!
VO7: StarTrek Objects - Contains the USS Reliant, NCC-1701-D (om the Next Generation), a Ferengi Marauder ship. As an added bonus, contains a fully detailed Porsche 911 and Apache Attack helicopter--all in Imagine format.
VO9: Imaging - Included on this disk are the indispensible utilities, Rend24, ViewTek and the JPEG utilities. Rend24 is invaluable for 24-bit animators allowing for previews on AGA and non-AGA Amigas. ViewTek plays back anims of all sorts including Anim 5, 7 and 8 formats.
VO10: Icoons - A spline based object modeller for Imagine. Also includes Imagine Stagin Editor. Requries 68020+.
VO11: T3DLib - Converts Imagine objects back and forth to the popular Textual TDDD (TTDDD) format.

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From p. 11.

record the approach of Haley's Comet.

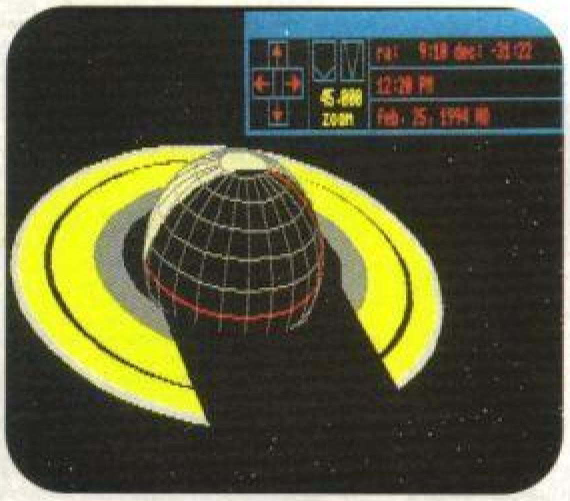
BODIES IN ORBIT

In addition to the aforementioned capabilities, DS5 includes a number of notable new features. In older versions, planets appeared as tiny bit-mapped images that lacked any sense of depth. In DS5, all the planets in the solar system are recreated with wireframe 3-D images. Using a variety of viewing controls, you can hover behind a planet, zoom in front of it, or see it from a wide variety of angles and distances. For additional viewing material, clicking on a planet will provide you with a number of IFF pictures, including eight 256-color AGA images.

Also new to DS5 are additional ARexx commands, a handy tool palette of program commands, and enhanced program performance. As with previous releases, Virtual Reality Labs provides a wealth of data disks containing additional star and image data.

READING YOUR STARS

The included 128-page instruction manual is filled with fascinating tidbits on astronomy and basic celestial mechanics, plus a handy guide to purchasing your own telescope. Virtual Reality offers technical support by telephone, a 24-hour BBS, and an online support forum via CompuServe.



Distant Suns 5.0 views from space, too.

Unfortunately, DS5 still suffers from a programming malaise that has afflicted all previous versions—slow performance on unaccelerated Amigas. Another shortcoming is the method of adding new images to the database, which involves manually editing a text file so that the program recognizes the new images—an unnecessarily cumbersome process.

These blemishes are admittedly minor, and they detract little from an otherwise exemplary product. If you've always wanted to explore the heavens from within the safe confines of your own home, look no further than DS5 for the best in simulated space exploration.

—Jeff James

COMPOSITE STUDIO

Dimension Technologies, $199.95

Any Amiga equipped with Video Toaster or OpalVision.
2.0/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
Minimum system: Video Toaster or OpalVison, 2MB chip RAM.
Recommended system: Same as minimum.

Productivity software for ToasterPaint and OpalPaint.

A few years ago, I painstakingly created several hundred individual graphic stills for a kiosk system. It was quite a chore. Now, a new product from Dimension Technologies, Composite Studio (CS), is squarely targeted at simplifying just such a project. Using either OpalPaint or ToasterPaint as a drawing engine, CS allows you to quickly build up an array of fully customizable display graphics for virtually any type of presentation. This review deals with the Video Toaster version.

STUDIO WORK

Once installed, the program runs from its own private screen while ToasterPaint runs on a hidden screen (use Amiga-M to flip between the screens). Composite Studio drives ToasterPaint via ARexx, but you never touch a single line of ARexx code—everything is done from CS's interface. The main part of the interface is the Template window, which is a symbolic representation of the image you are building.

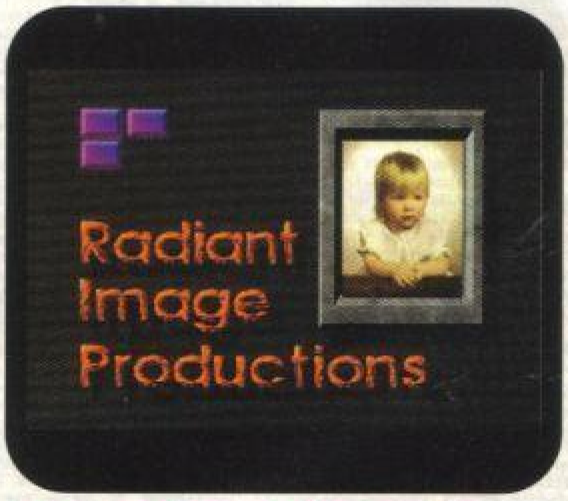
Each element in these representations, called templates, is placed and sized from the Editor window. Then, in the Template Book area of the interface, each completed template is represented by a crouton that you can save for later use or editing. The remainder of the interface is composed of gadgets for defining each element in a template, plus a render section for outputting the finished templates, which you can render interactively or from a list in batch mode.

The program builds up a set of fairly generic template definitions in the Template Book, and then retrieves them and tweaks the individual element attributes as needed. For example, consider the kiosk application mentioned above. It is extremely common for an image displayed on the kiosk to consist of a main picture with two or more labeled button choices below it. You could store this as a base template and then assign a different picture with appropriate button labels for each rendered image.

ARTISTIC TEMPLATES

It's easy to create and change templates in Composite Studio by using its object-oriented approach. If you want to build up a large number of similar images, CS can reduce your hands-on time to just a few minutes per image. I recommend using the program's batch-rendering capabilities, for it takes only a short time to build up enough elements in a template to increase rendering time to 20 minutes or so per image.

Although the program multitasks nicely, you are not supposed to move the mouse while certain elements are being drawn. Among the elements and attributes the program provides are color gradients, transparency gradients, IFF brushes, bevels, drop shadows, textures, and frames. You can use the attributes individually or in combination for an endless array of eye-catching possibilities.



Composite Studio's Toaster output.

Overall, the program's operation is straightforward, and online help describes each area of the interface. The manual, however, is rather sparse and could benefit from a few detailed tutorials. I found myself floundering a bit at first trying to get things to operate, but it didn't take long to figure out most aspects. If you run into problems you can't solve, Dimension Technologies' technical-support people are glad to help out over the phone.

QUIRKS AND SNAFUS

The greatest shortcoming of CS is that it relies entirely upon ToasterPaint for all ►

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TOP 10

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❹	GIFs Galore	19.99
❺	Tandem/Mitsumi Controller	99.99
❻	Ultimate MOD Collection	24.00
❼	Gold Fish	20.00
❽	DOS 2.04 to 2.1	54.00
❾	C Net Pro 3.0	124.00
❿	ASIM CDRom FS	55.99

HARDWARE

486DX Emulation Module	Call
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Accel, GVP 68040	1039.00
Accel, Cyberstorm '060	Call
Accel, Warp Engine 3033	1285.00
Accel, Warp Engine 4028	770.00
Accel, Warp Engine 4040	1429.00
Accel, DKB 1240	339.00
AD 1012 3.0	525.00
AmigaLink Starter	249.00
Boing! Mouse	75.00
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2120 E. MORELAND BLVD. SUITE L, WAUKESHA, WI 53186 of its drawing operations. Now, not only is ToasterPaint a fairly buggy application, but its ARexx support is marginal, so I'm surprised that CS functions at all. According to Dimension Technologies, many of the peculiar operations seen while rendering are there to work around ToasterPaint's idiosyncrasies. But be forewarned: While I was using CS, ToasterPaint frequently seemed to get confused, and either certain elements were drawn improperly or the framebuffer contents were not getting rendered. Hopefully, the long-awaited new ToasterPaint and upcoming versions of CS will help the situation.

Another nuisance is the fact that ToasterPaint accepts brushes from DPaint, but not from ADPro or ImageFX. Finally, I had hoped for text support, but didn't find it. Display graphics tend to rely heavily upon text, and a lot of potential time saving is lost in having to do the text outside of the program.

If you are doing any sort of display graphics, from family slide shows to broadcast-news backdrops, Composite Studio can dramatically improve your productivity. And although the sometimes quirky operation can become frustrating, it usually doesn't outweigh the time you save.

—Mark Thompson

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Well, it's two years later, and DirWork (version 2.1) now appears as a commercial program. Complete with 166 pages of spiral-bound documentation, a sophisticated program editor, and a set of a dozen configurations, it's an impressive package.

DIRECTORY WORK

DirWork arrives on a single disk that quickly installs the program on your hard disk with the use of Commodore's Installer program. If you choose the rugged-individualist route and skip the Installer utility, you'll find that you need to edit the ToolTypes specified in the DW.info and DWEDit.info icons—so it's quicker and easier to use the Installer.

A minimal installation is also possible, where you install the configuration file, DW, and DWEdit programs, then rename the configuration file as dw.cfg. The ToolTypes from DW and DWEdit should be removed. The install disk's c directory also contains a conversion util-

Continued on p. 48.

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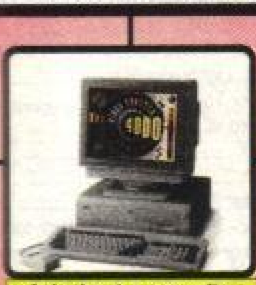

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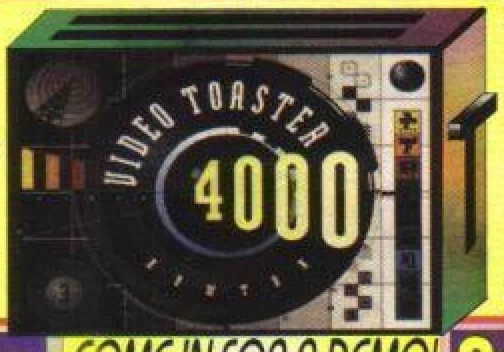

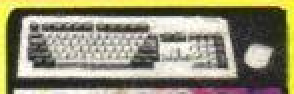

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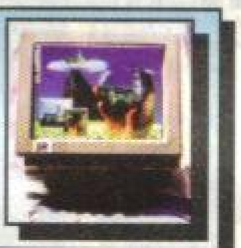

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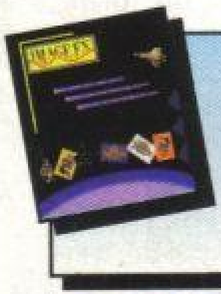

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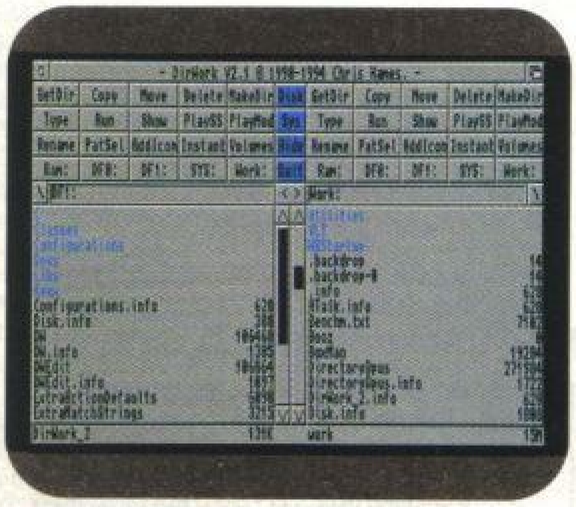
From p. 44.

ity called DWConfigConvert that converts your favorite DirWork 1.62 configuration to the new DirWork 2.1 format.

Once the installation is complete, your next stop will be DWEdit. An editor à la Directory Opus' point-and-click configuration program, DWEdit allows you to size and position—pixel by pixel—all the buttons and screens that DW is capable of generating. If it's launched from a Shell, you can include keywords GOTOSTARTUPS, GOTOGADGETS, and so on, as part of the command argument. Doing so whisks you directly away to the specified segment of the editor.



Move your files with DirWork 2.0.

If all this sounds like a lot of time-consuming work, it is. To circumvent this procedure, DW comes complete with about a dozen popular configurations, including DWClassic, for that V1.62 look and feel, and DWDock, for a slick, dock-type interface. Other configurations let DirWork appear as anything from a small Intuition window, barely a quarter-screen in size, to a mammoth PAL-sized screen.

Other niceties include a SYS option having one-click buttons that reveal your Amiga's operation. Cards, resident fonts, libraries—all the information you'd like to know is instantly displayed.

UNDER WAY

I used DW 2.1 under a variety of configurations, including several of the bundled ones and some of my own design. Initially, I found it a tad clunky and confusing when I tried to perform certain operations. For instance, selecting the correct sequence of buttons to perform simple things such as file and directory copying requires a trip to the informative and technically oriented manual. But once the learning curves are cleared, there's nothing too tough about the program.

In the final analysis, DW 2.1 is an impressive, well-refined disk utility. Not a particularly charming program for those accustomed to the fluidity and refinement of Directory Opus, but enticing enough for DiskMaster users to change brands. Its speed and tiny window configuration alone make it superior to the orphaned Progressive Peripherals utility, and it is far more versatile. If you're looking for a rapid, well-supported file manipulator, you really can't go wrong with DirWork 2.1.

—Tim Walsh

TOCCATA, SAMPLITUDE-MS

NoahJi's, $595

A2000, A3000, A4000.
2.0/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
Installation: Easy.
Minimum system: 2MB.
Recommended system: 68030 or faster accelerator, hard disk, 10MB RAM, stereo playback equipment.

Sixteen-bit sound card with sampling and playback software.

High-quality, direct-to-hard-disk audio recording and editing has just come down radically in price with the introduction of NoahJi's Toccata/Samplitude package. The Toccata board installs in any Zorro II or III slot and can sample in stereo, 16-bit fidelity at all rates up to 48 KHz. Samplitude-MS is the sample-editing software included with the Toccata board. It provides for control over the Toccata (as well as all the 8-bit, parallel-port samplers currently available), recording direct to hard disk or RAM, sample editing, limited effects, and cue-list sample playback.

SOUND HARDWARE

The Toccata has a set of stereo outputs and three sets of stereo inputs that are software switchable and controlled, as well as two line inputs and one microphone, all unbalanced, ¼-inch stereo. The output and line-input ports are on the main board; the remaining inputs are wired through a bracket that fits into an adjacent slot. The Toccata software allows you to control all the basic parameters: sample rate and resolution, input source, level, mixing, and output level. Audio output can be routed either to the Toccata's stereo out, or, in 8-bit form, through the Amiga's sound circuitry.

Record functions are controlled by the Toccata Recorder, a separate control panel with some duplication of features. This dual-window setup (either or both of which you can open on any public screen) is a bit on the clumsy side, yet it functions quite well.

FOR YOUR LISTENING PLEASURE

Samplitude's Record window has all the necessary controls for level (but not source selection, which is performed from the Toccata Control window), record path, and parameters. During recording, direct monitoring is not possible. For the rest of the features and functions, the controls are responsive and intuitive, making for speedy work. You can designate samples as either RAM or hard-disk projects; the manual is sparse on details of the difference, save that they have different file structures. Naturally, RAM projects seem to load faster.

Once recorded, the sample is automatically loaded into the graphical editing window. Button controls on the bottom and right side of the window aid in cursor placement for editing. The sample-editing process is much the same as that employed by most other sampler editors: A section of the waveform is highlighted, and then an operation is performed on it. These operations include cut, copy, paste, insert, invert, backward, crossfade, fade in/out, resample, and echo. You can subject the waveform to zooming or see it in separated stereo or quad views, linked or unlinked (which allows for editing multiple channels simultaneously). A quick screen redraw makes these features very usable. In fact, all the functions of Samplitude have a quick and smooth feeling, making for fast and productive work.

There is no provision for non-destructive edits, nor is there an Undo feature. The Playlist feature allows you to define multiple sections of a sample project, specifying start and end times and playing order. There is also an ARexx port, a lengthy list of commands, and a generous group of sample scripts to get you started.

MORE MUSICAL MATERIAL

The ToccataJinglePlayer, one of the auxiliary programs shipped with the board, is used to mix samples into the Toccata's playback via one of the two auxiliary in- ►

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puts. A graphic interface allows for port selection, sample selection, and volume adjustment. You can also activate the JinglePlayer by the CLI or through its ARexx port.

Missing from the current version of Toccata/Samplitude, but reportedly to appear in future software upgrades and hardware add-ons, are time-code sync capability, time-line editing, an object-oriented editor for playlists, MIDI Sample Dump support (for editing data from external MIDI-based samplers), and four-track playback. Some of these features are available immediately by taking advantage of the offer to upgrade to Samplitude-Pro for $199. All these features would be most welcome additions to increase the package's usefulness in professional production situations. As it now ships, the Toccata package provides excellent value for the money: clear, high-fidelity audio and fast, functional tools for working with audio samples.

—Michael Hanish

DICE 3.0

Obvious Implementations Corporation,

$150 (SAS/C owners, $95; students, $65; registered DICE owners, $75).

All Amigas.
1.3/2.0/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
Minimum system: Two floppy drives.
Recommended system: 4MB, hard disk.

Amiga C programming-language compiler.

Written by Matt Dillon, DICE began its life several years ago as a freely distributable C compiler with the usual shareware marketing approach: register with a small payment, and you receive the full version. OIC's implementation is much more robust, and with good reason. The people behind OIC include former Commodore software engineers Andy Finkel and Bryce Nesbitt, as well as SAS Institute's compiler whiz, John Toebes. And DICE includes other tools from the creator of ARexx, William Hawes.

ANY WAY YOU DICE IT

I expected DICE to resemble its last shareware incarnation. Instead, I was pleasantly surprised to find a compiler system as functional and complete as SAS C or Manx C. DICE includes the compiler itself, two assemblers, a source-level debugger, an execution profiler, a choice of two editors, online help, Unix-like tools, and revision-control software. It also sports a file-compression utility, AmigaDOS Include files for 1.3, 2.0, and 3.0, and ANSI C, Unix, and Amigalink libraries. It has a limited but freely distributable demo version of the compiler that you can give to your friends without committing an act of piracy.

The full source code to the libraries is included. Owning this source code is indispensable for a C compiler, as it serves as detailed documentation, a learning tool, and a patch for late-night bugs. Except for essentials like _main(), this wasn't available for SAS C, and Manx C charged extra for it. There is plenty of example source code, too: shared libraries, printer drivers, Exec devices, and a DOS packet handler. A full installation creates nearly 8MB of files.

COMPILING AWAY

I found the compiler speed and code size roughly comparable to results from Manx C and SAS C. DICE includes some extensions for Amiga-friendly tricks, such as automatically opening an AmigaDOS library if you use a function from the library without first declaring the library base. It also includes a handy Unix compatibility library, as well as an extra Amiga-centric library with functions for easily adding ARexx support to your programs.

DICE's VMake, an integrated development environment, uses template makefiles for easy adaptation to different types of projects, such as libraries, Workbench and CLI tools, printer drivers, and so on. With a few mouse clicks, you can add files to the project, invoke the revision-control software, jump to the editor, compile, examine and fix errors, and run the program and debugger.

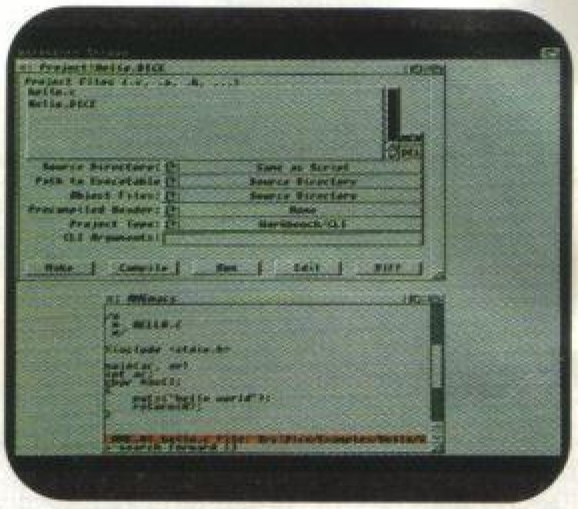
Amazingly, VMake itself is highly configurable. You're free to change the user interface by altering a configuration file that sets the menu items and the corresponding ARexx or AmigaDOS commands they invoke. As such, DICE's integrated environment resembles the latest tools on the PC and Macintosh. With its highly configurable interface and the tight integration with ARexx, it is certainly more flexible than Microsoft's Visual C, Borland C, or Symantec C.

The manual is more than an inch thick, and the online documentation is identical to the manual. You'll find a slim section on the basics of C programming and coding style, including examples designed to familiarize a user with C. It's really unnecessary, however, since beginners need more than just a few pages of advice, and experts are likely to skip that section altogether.

Each topic of the manual is peppered with useful asides: such things as warnings regarding common mistakes, helpful references, and mini-reviews of authoritative books about C. You'll also be entertained by clever cartoons and seemingly endless wit.

BUGGY CONFESSIONALS

On the downside, the compiler is missing some of the more obscure ANSI C functions, such as those relating to dates and wide-character support. The "readme" files include an honest appraisal of these known bugs, as well as common enhancement requests. Furthermore, the "lbmake" utility appeared to be a handy and quick way to make link libraries, but I couldn't get it to work. Example makefiles are provided, but they didn't resemble the documented command-line options for lbmake. The manual also lacked descriptions of the error messages the program displayed. Tech support revealed that lbmake was supposed to have been better documented in the examples, but for some reason it wasn't. In fact, they thought the entire source code for lbmake should have been present in the distribution, but somehow it was omitted.



DICE's no-nonsense work area.

Sadly, technical support is limited to OIC's sales office, which only takes messages and orders. Speedy tech support requires the use of a modem to reach OIC's online e-mail on the Internet or the support section in the Amiga Vendor Forum on CompuServe. Nonetheless, in these times of waning Amiga development from Manx and SAS Institute, it's encouraging to see DICE in commercial form.

—John Foust. ■

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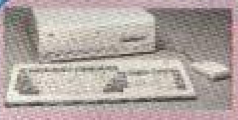

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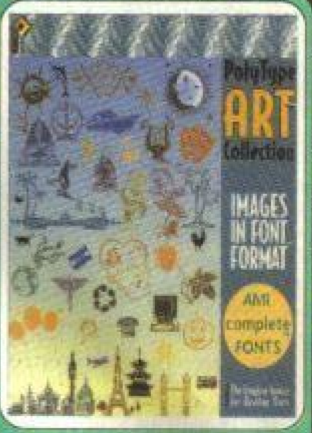

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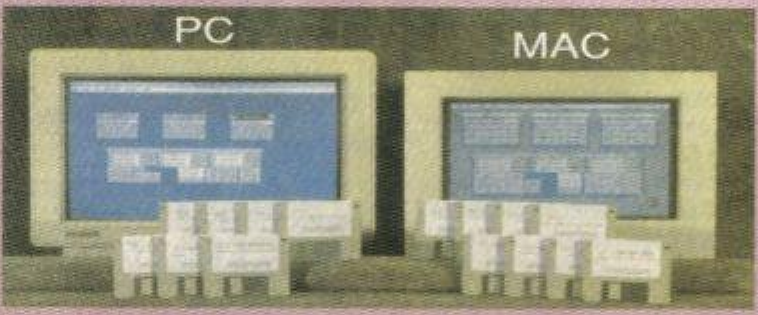

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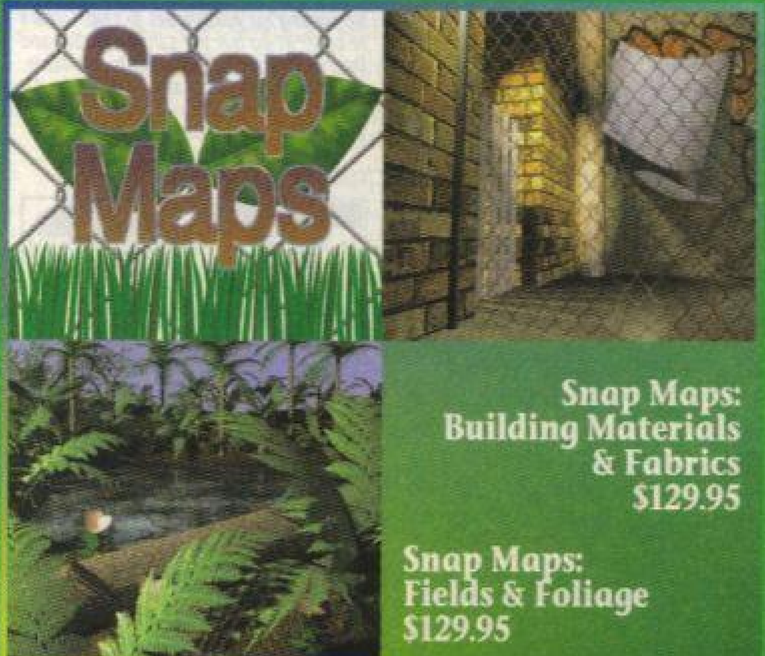

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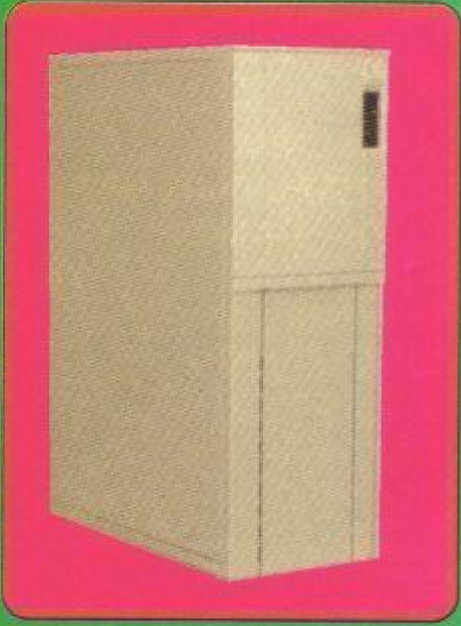

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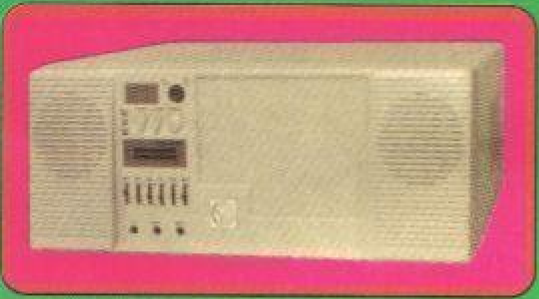

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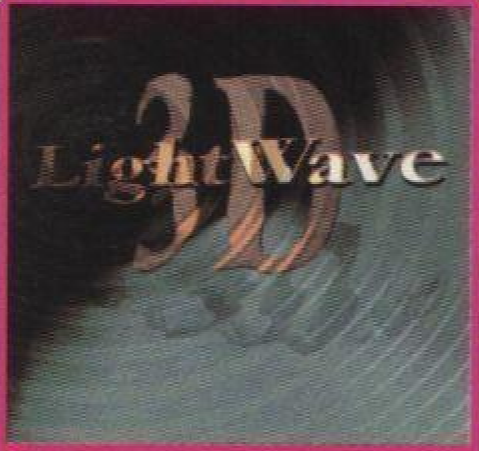

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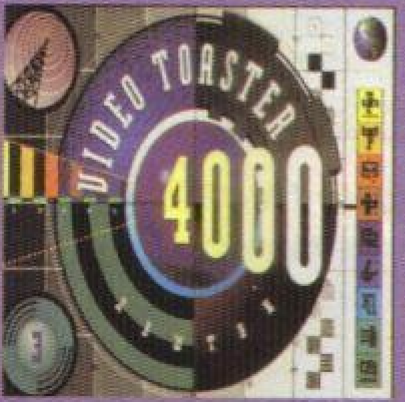

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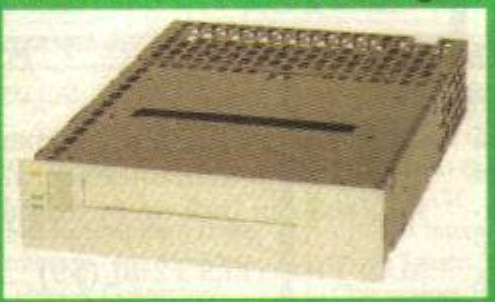

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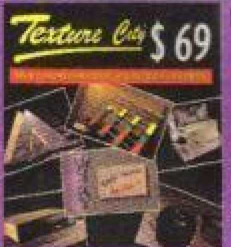

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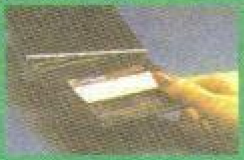

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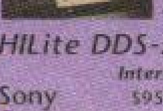

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The Game Preserve

By Peter Olafson, AW Games Editor

Special Feature:
A Look at the Latest Licenseware Imports from the UK

SHAREWARE IS A wonderful concept because it's founded on faith in human nature. It's also an intrinsically flawed concept because . . . well, because it's founded on faith in human nature. It's an honor system—basically, if you break it in, you're supposed to buy it—and an honor system is not a reliable foundation for a living wage.

In Europe, "licenseware" was conceived as the cure. A select group of vendors offer programs of near-commercial to commercial quality at a modest price (typically under $10) and pay a percentage (usually about half) of the proceeds from each sale to the author, either directly or through a clearing house. In theory, at least, everybody should be happy.

The concept is just beginning to catch on among Amiga PD distributors in the United States. Northwest Public Domain has brought over the extensive CLR line of licenseware from the UK and is planning its own licenseware label. (No titles were definite at this writing, but owner John McNab was looking at several interesting contenders.) Turtle Lightning has now started up its own label, with at least four games already available.

While licenseware programs run the gamut from high-end apps to edutainment, a healthy chunk of the CLR stuff is games (most of them PAL), and many are of good quality. Here are some of the better ones:

Imbrium—Day of Reckoning ($5.50)

Day of Playing Imbrium, too. Given the weight of software I look at, I don't have an enormous amount of time to devote to any one product. But this was an exception. I couldn't help myself. Controlled by joystick but driven by menu and puzzle, Imbrium is exactly what an arcade-adventure should be, and it beckoned to me on so many different levels that I'm scared to start detailing them for fear of not having room for anything else.

Crystal Skull ($5.50)

This could easily have been a full-price commercial title a year or so ago. (Indeed, it would have been, but the distributor went under.) It's a very professional Indiana Jones-ish game done in the isometric style of Millenium's The Adventures of Robin Hood and Rome 92 AD—exotic, detailed, and difficult, with lots of people to chat with and interesting places to poke your head into.

Lost Prince ($6.50)

Some game genres only rarely visit the low end of the spectrum. Last year's Starbase 13 was the first Sierra-style animated adventure in the PD/shareware field. Lost Prince is the first to surface in the budget market, and it's a cracker—both graphically and in interface, albeit it's a bit minimalistic in the stuff you can pick up or examine.

Mad Fighters 1200 ($9)

Oddly enough, this is not an AGA game. This wild, three-disk beat-'em-up from NBS doesn't run fast enough on the 500 and is too fast on the 3000. It's a little messy graphically—everyone looks like a zombie—but the same messiness could pass for style. It's got a crazy score, man, and while hardly competition for Body Blows, it easily beats out the AMOS-built PD game Fighting Warriors. (It's also better than the just-released, AGA-only followup.)

F1 Racer ($5.50)

An amazingly good polygon-based Formula 1 racing game. It lacks the polish and the exhilarating highs of a World Circuit—if licenseware has an inherent flaw, it's a lack of dazzle—but the cars have substance (they really carom when they collide), the scenery is elaborate and the race a challenge. (I wish CLR's feature-rich, Super Sprint-clone Hairpin 2 was up to this level.)

The Viking Saga ($5.50)

Not your usual bring-the-galaxy-to-its-knees game. This is a lively strategy contest with an original Norse setting and story, interesting play, intelligent options . . . and lots of built-in cheats for when you get the horned hat beaten off you.

Time Rift ($5.50)

While not as fetching as Imbrium, this more conventional arcade-adventure/platformer recalls the great Jim Power in structure. It's smooth-playing and well drawn—your character has this great flowing mane of rock-star hair—and includes some nice features (automap and inventory). Then again, the game doesn't feel quite complete—it's as though there's a layer of artwork missing—and I wish it scrolled instead of using static screens.

I had a chance to see only a couple of F1 releases. Karate Master may require a 2-meg Agnus chip, but this fighting game's just a routine clone of the great IK+. On the other hand, Relics of Deldroneye is a wonderful animated adventure with a LucasArts-style interface and Lure of the Temptress atmosphere that's rich in feature (the concept of memory) and effect (lots of little anims)—not to mention the best title tune on any Amiga game since Scorched Earth. It's not the first time this ►

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Atari Rules! (Psych!)

sort of game has been done inexpensively—there's Escape from a Very Large Cave—but it's the first that's been really well done. (Shame about all the misspellings, though.)

It's Raining . . . Turtles?

By contrast, most of the first batch of Turtle Lightning stuff (all $6.50) is closer to shareware, and they'll need to look for more distinctive material to compete with the big boys from Europe.

However, that's only to be expected as a start-up publisher finds its way, and that isn't to say that any of its first three releases are bad. (They've recently released a fourth game—Deluxe Hangman—at $4.50.) Q-Berta is a charming lightweight application of Ms. Pacman principles to the veteran hopper of Escher-like cubes. And while Stress is Tetris variant 14,552, something happy and goofy wafts about it—possibly because the author created it for his five-year-old.

The most interesting entry is Robotic Rebellion Professional—the full, editor-equipped version of an interesting arcade/puzzle game from the author of the recent TechnoVenture. The game is actually much better that its implementation would sometimes suggest. The scrolling method is irritating, and the main sprite—an intricate creation in the fashion of The Killing Game Show—has a tendency to flicker. But the puzzles are clever, and it keeps you thinking . . . and playing.

Valhalla and the Lord of Infinity

A

1.3 ✓
2.0 ✓
3.0 ✓

Hard-drive installable.
Off-disk copy-protection.

THIS IS JUST delightful. England's Vulcan Software is advertising Valhalla and the Lord of Infinity as the Amiga's "first speech adventure." That's certainly accurate—this six-disk game beat out the in-bound "talkie" CD32 versions of Dark Seed and Simon the Sorcerer—and it's certainly part of this puzzle-driven adventure's not inconsiderable charm. Joystick your little blond fellow to most any object or feature in the game, whether unique or mundane, hit the firebutton, and he'll tilt up his head so he's looking out of the screen and say, in a tiny, English-accented voice, "It's a book!" (well, duh!) or "It's a lee-vah!" or, simply and pitifully, "I want to go home." And no wonder, with the great crypt around him gorgeously done up in funereal brown, unseemly death looming at every turn, and tabletop skulls demanding "Bring me blood!" and, hysterically, "Do you wove me?"

Now, "charm" is a nice thing, whether in platformers or text adventures, and here it extends even into the hard-disk installation routine (which has you spelling out the title in icons). But it's ultimately irrelevant—it can't of its own accord redeem a bad game or by its absence damn a great one—and Valhalla, speech or no speech, is a great one.

It's especially welcome because this sort of game has never fared particularly well on the Amiga—either due to low puzzle population, obsession with scenery over content, or dismal translation. Consider Darkspyre. That 1990 Electronic Zoo game was a wonderful dungeon adventure on the IBM—with weapons and armor, which Valhalla happily omits—but arrived on the Amiga in a decrepit condition that never earned it any special recognition.

Valhalla is what Darkspyre should have been. The four levels here are immense; they seem to grow and grow, like crazy weeds, as you gradually acquire objects that lead to other objects, that lead to keys, that open locked doors, that lead to ►

To locate vendors of the games reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 60.

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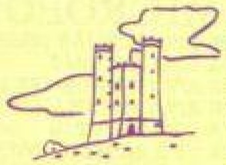
Moreover, you live very actively within these walls. You'll traverse the halls and rooms, back and forth, up and down, so many times in overhead view before moving on to the next level that playing Valhalla will come to feel like walking through your own home. (The interface is so appealingly simple you don't have to agonize over things that should come naturally.)

Limitations? Well, there's but one saved-game position (an advantage in that the game restores in one bright flash). The speech can grate—especially if you've been stuck for a while—and I'd have liked an option to turn it off. And while Valhalla's occasional death traps ticked off some critics as unfair, I'm not among them, as maps of the relevant rooms can be found under certain floor tiles. Everything fits together. This is delightful. This is just delightful.



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My favorite shareware game of the last few months has to be Incinerator, a brilliant 3-D turn on Missile Command that makes a feast of my spare time. Next up from author Pete Storonski: the demolition-derby game, Mangled Fenders . . . Amiga game editors have been in short supply in these lean times, but we've been blessed lately with F1GP-Ed (a comprehensive tool for messing around in World Circuit files) and EdSet, Megaball author Ed Mackey's masterful save-file editor for The Settlers.

There was a period when every other shareware game somehow seemed to involve pairing colored blocks. Then there was the Yachtzee Period (spelled innumerably different ways, but still Yachtzee). And most recently, we've been seeing a number of variations on Super Sprint. The two most widely distributed, Moose Drive and Automobiles (a sort of miniature version of Skidmarks), are pretty good—but the best has to be High Octane, which almost steers into Overdrive terrain (and, speaking of editors, it's got a map editor, too).

Shareware RPGs on the Amiga tend to use an overhead view—with The Fantasy Project and Sword of the Warlock being notable 3-D exceptions. Two more 3-D entries—Black Dawn and Sword of Folklore—are excellent, with BD being especially spooky. (Kit Felice's The Gladiators of Dagania doesn't quite belong in this school—it's really a combat game—but the feel is very RPG-ish and it's great fun. Make that multiplayer version, Kit!)

I can't recall a conquest and resource-management game as detailed and thoughtful as Ed Musgrove's Spheres of Influence; the level of control is just incredible . . . The Shepherd—PowerMonger with animals—has been released in a full-fledged shareware version . . . Ork Attack is the best Kaboom! clone around; bloody but immensely entertaining . . . Ladder proves games don't have to be big and elaborate to be fun; it's a charming, pitch-perfect rendition of an ASCII game for CP/M . . . And Beetle has got to be the best shareware platform game ever to appear on the Amiga, with gorgeous, ornate graphics, 200 levels, four mini-games, and a level editor in the registered version. Put it this way: If you'd bought it for $30, you'd be happy. ■

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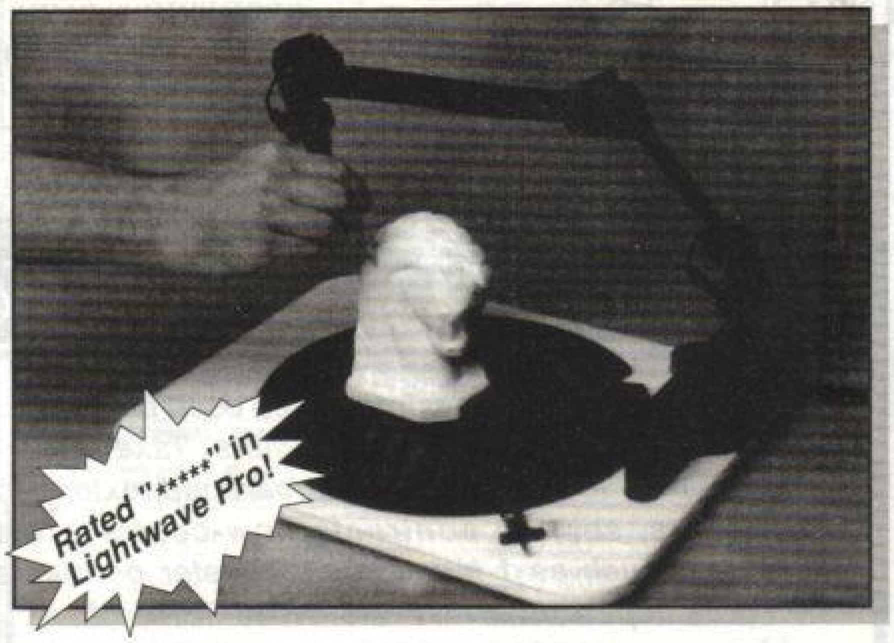

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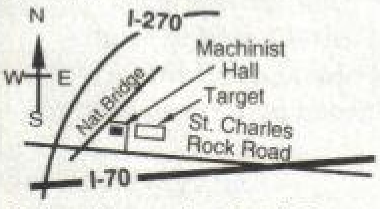

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THE LAST WORD

Kudos, complaints, comments, concerns, and contributions from our readers.

HELP FOR USERS

Commodore's death puts me in a dilemma. My work is fifty percent centered around the Amiga's sound capabilities. I wouldn't even know where to begin in shifting my programming to some other computer, although I know that some of them must have sound-analysis features comparable to the Amiga. I may never need another computer if my A2000 holds up. However, I am interested in programming that can be adapted to my work. So will your next issue show us what plans you have to help us?

Joel Charles
Plantation, Florida

We're making a start in this issue with Denny Atkins' article, "Help! We Need Somebody" See p. 15. —Eds.

SHOUT LOUD AND CLEAR

Due to the Commodore liquidation proceedings, the Amiga market is in disarray. What's needed is a letter-writing campaign to get the news media to investigate the Commodore situation and showcase the Amiga at the same time. Please get involved, and also help spread word of this campaign to Amigans all over the world via the Internet and commercial online services.

Lamar Morgan
Atlanta Amiga Users' Group

AMIGA DEFINED

The following definition appears in *The Illustrated Computer Dictionary For Dummies*, by Dan Gooken, Wally Wang, and Chris Van Buren:

Amiga: *Meaning*: The name of the most techonological [sic] advanced, inexpensive personal computer on the market today that hardly anyone cares about. *Use in sentence*: "I wanted to buy an Amiga for its low price and great color graphics, but everyone else seems to be using IBMs or Macintoshes. So to remain compatible with the rest of the world, I spent three times as much on a Macintosh and got only half the graphics capability of an Amiga."

Is this supposed to make me laugh or cry?

Steve Folberg
Austin, Texas

TAKING EXCEPTION

Geoffrey Williams' review of Transition (Aug. '94, p. 50) was inaccurate and biased in favor of Art Department Professional. His reference to "obvious" formats is highly irregular, as two of the three that he mentioned, PICT and Targa, also incur an additional cost for ADPro users.

What's needed is a letter-writing campaign to get the news media to investigate the Commodore situation and showcase the Amiga at the same time.

He wrongly states that the PCX format was the only Transition-supported format found on the Texture City CD-ROM. IFF files also reside on that CD-ROM. Mr. Williams then states that JPEG is the only 24-bit format supported by Transition. Had he looked closely at the screenshot that accompanied the review, he would had seen that IFF24 is also supported. The chart in Appendix A of Transition's manual details system RAM requirements for processing different file sizes, as well as the sizes of the files themselves.

What we find most disturbing is his method of time-keeping in regards to his supposed five-minute JPEG-to-16-color IFF [conversion] on an '030-based Amiga. We have been unable to duplicate this performance on our '030-based machines, a 33-MHz A2000 and a 50-MHz A1200. Our results for converting a 640x400 JPEG to a 16-color IFF were 2 minutes, 45 seconds for the A2000/'030, and 1 minute, 50 seconds for the A1200/'030.

As far as the batch processing giving no indication, it gives the same status results as a single-file conversion, as shown in the status area. It does not denote which file it is working on, though, and this will be addressed in Transition 2. The problems with erroneous dimensions for JPEG images and the sporadic creation of corrupted files have been addressed and corrected in the new version, Transition 1.1. Floyd-Steinburg dithering and options to reset values after processing have also been added in version 1.1. The version 1.1 upgrade will be available free of charge to all registered users of the disk-based package.

Joel Corn
Owner/Programmer, DarkSoftware

PICT and Targa formats are supported by the basic ImageFX and Imagemaster packages. These are popular industry standard formats that should be included with any professional image processor. Both ImageFX and Imagemaster also perform batch processing.

I apologize if my remark concerning the JPEG format was misconstrued. While Transition handles other 24-bit formats, the point was that it could not convert 24-bit files in any format other than JPEG. Since new 24-bit, full-color clip art is now available on CD-ROMs in 24-bit formats other than IFF24, it's important that Transition offer the ability to convert them.

In reference to my conversion times, my machine converted entirely off the hard disk, as Transition informed me that 10MB of RAM was insufficient to use as workspace. To convert a JPEG to a 16-color IFF, the best time my GVP controller-equipped system could yield was 4 minutes, 51 seconds. Had I been able to use RAM, my conversion times would have been closer to the ones you list.

Geoffrey Williams ■

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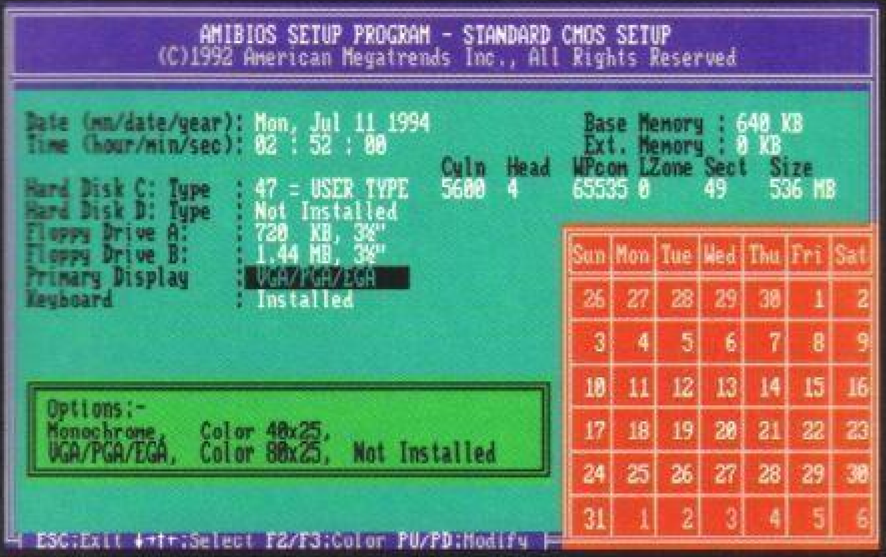

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Primary Display     : VGA/PGA/EGA            26  27  28  29  30   1   2
Keyboard            : Installed               3   4   5   6   7   8   9
                                             10  11  12  13  14  15  16
 Options:-                                   17  18  19  20  21  22  23
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 VGA/PGA/EGA,  Color 80x25,  Not Installed   31   1   2   3   4   5   6
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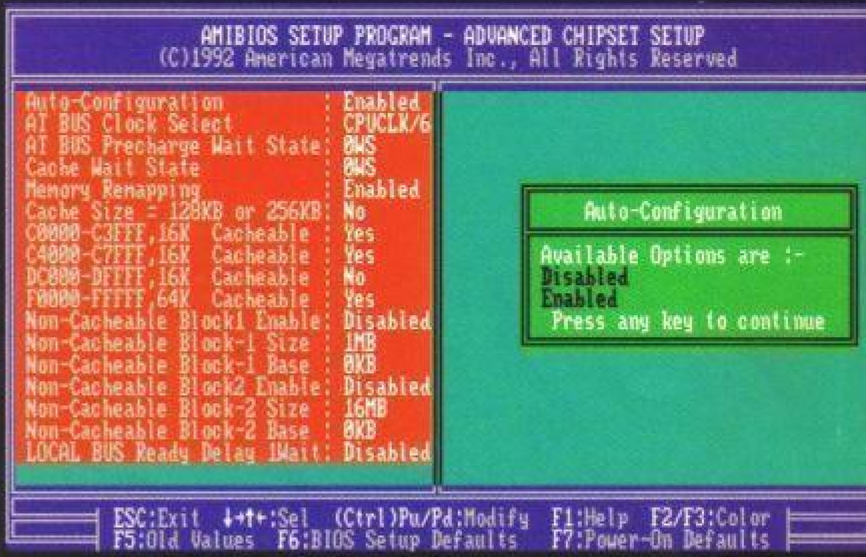

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Memory Remapping               : Enabled      Auto-Configuration
Cache Size = 128KB or 256KB    : No
C0000-C3FFF,16K  Cacheable     : Yes          Available Options are :-
C4000-C7FFF,16K  Cacheable     : Yes          Disabled
DC000-DFFFF,16K  Cacheable     : No           Enabled
F0000-FFFFF,64K  Cacheable     : Yes           Press any key to continue
Non-Cacheable Block1 Enable    : Disabled
Non-Cacheable Block-1 Size     : 1MB
Non-Cacheable Block-1 Base     : 0KB
Non-Cacheable Block2 Enable    : Disabled
Non-Cacheable Block-2 Size     : 16MB
Non-Cacheable Block-2 Base     : 0KB
LOCAL BUS Ready Delay 1Wait    : Disabled

ESC:Exit  ↓→↑←:Sel  (Ctrl)Pu/Pd:Modify  F1:Help  F2/F3:Color
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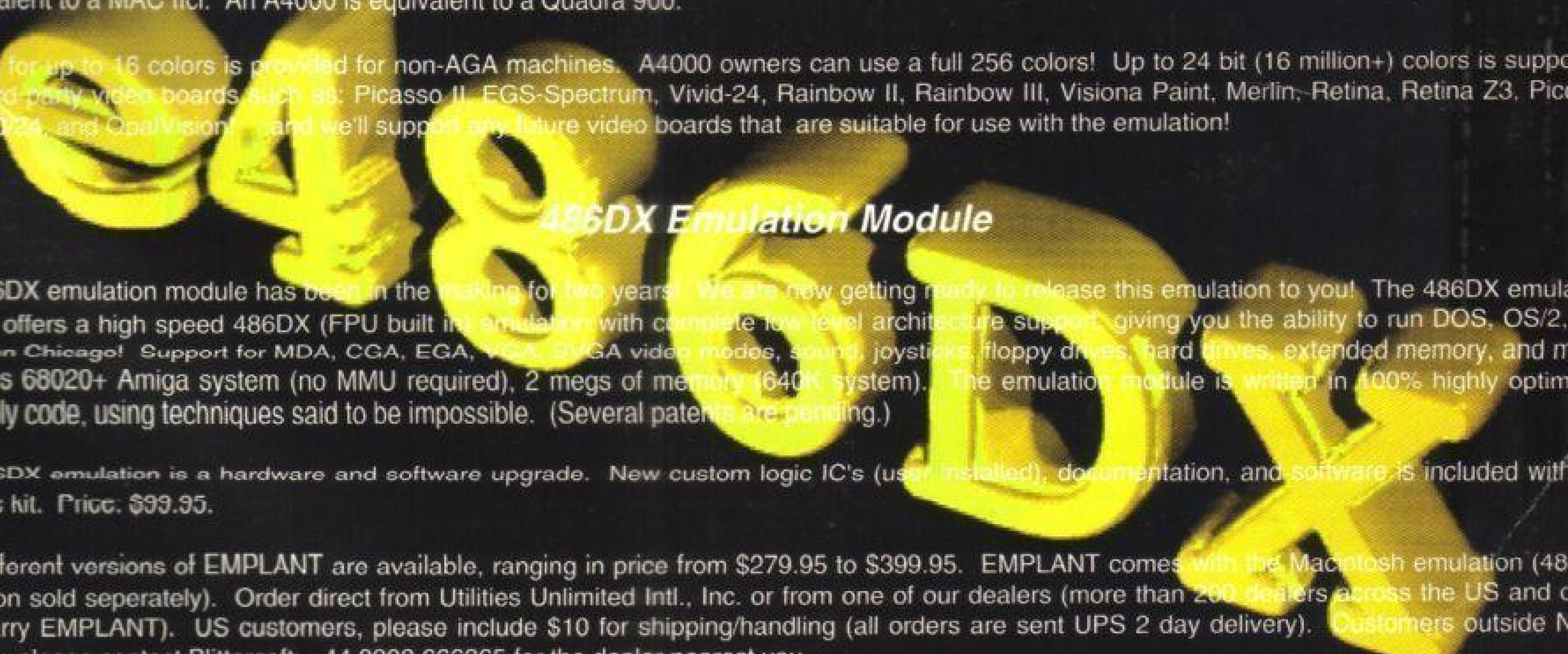

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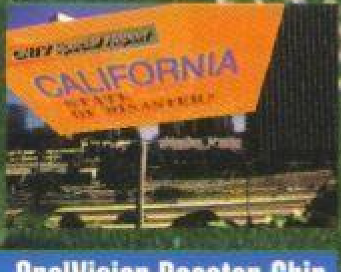

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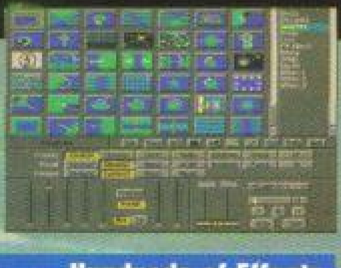

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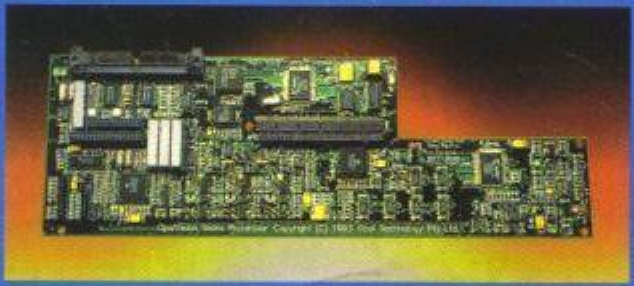

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